

PHILADELPHIA, FEBRUARY 24, 1883.

## ORIGINAL LECTURES.

### CLINICAL LECTURE ON SPINAL CURVATURE, WITH REMARKS ON ITS PATHOLOGY AND TREATMENT.

*Delivered at the Pennsylvania Hospital, Philadelphia,  
January 13, 1883,*

BY THOMAS G. MORTON, M.D.,  
One of the Attending Surgeons.

GENTLEMEN,—I have shown the class on several occasions clinical illustrations of the various forms of congenital club-foot. The little patient before you is simply an additional instance: I show him to you this morning in order to point out certain pathological features which are of special importance in connection with some cases of an analogous kind which I will bring before you presently. I have already told you in a former lecture that in this affection the deformity is really the result of palsy of certain muscles or muscular groups, and as a consequence the stronger muscles contract while the weaker muscles yield, producing the several varieties of club-foot according to the particular muscles involved. The paralysis is of spinal origin, and may occur either *in utero* or in infantile life, but, whether congenital or acquired, the explanation is the same: if the paralysis is extensive, the limb will hang entirely helpless, as in infantile palsy; but if only slight or partial, certain muscles alone will be affected, and some deformity will be produced. In such cases, I have previously told you, we expect to have a certain amount of permanent atrophy or retarded development in the affected limb, not limited to the muscles. The treatment must be conducted with a view to restore function; instead of cutting tendons I stretch the foot, and afterwards keep up passive motion. Beginning the manipulations at birth or shortly afterwards, I instruct the mother or nurse, or some one in attendance, to carry out certain movements,—bending the joint in the opposite direction to that of the deformity, making a calcaneo-valgus out of an equino-varus, for instance,—stretching the contracted muscles, and exercising the weak ones. This should be carried out every day, carefully moulding the foot, making it

pliable, and gradually overcoming the deformity.

This child is four months old; it had double equino-varus. The mother has persistently followed my directions, stretching the foot daily. The photographs I now send around the class show clearly how the foot should be stretched. Standing at the side of the patient, the foot is grasped by the hand of the attendant, the thumb pressing upon the prominent portion of the tarsus, and the foot then forcibly everted, supposing it to be a case of varus, converting it into a valgus, lifting the anterior part of the foot up and at the same time allowing the heel to go down. As I do this the child does not cry, showing that there is no pain, and that the treatment has been faithfully carried out. The foot has been treated this way for about two months, and the deformity is now sufficiently corrected, so that we shall apply an apparatus,—a well-made shoe with the inside ankle-strap, lacing up from the toes, and steel bands on the side to the knee. Each morning, after the foot has been stretched, this modification of Scarpa's shoe is to be put on, and worn during the day, removing it at night. By this method you can generally get the best results, and cure any case of congenital club-foot.

I shall show you now a few cases which I happen to have under my care, illustrating forms of spinal disease. We do not, as a rule, have many of these cases at one time under treatment at this hospital, since they generally seek relief at some of the special hospitals; but, as I have now several in the wards, I thought it might interest you to bring them before you and discuss with you some points in pathology and treatment.

You know I have spoken of club-foot as being essentially a paralysis, or nervous weakening, the deformity being caused by the stronger muscles pulling the foot to one side on account of the yielding of the weaker muscles. Now, besides congenital and acquired club-foot, we have other disorders caused in the same way. Infantile palsy may be followed by acquired deformity, and club-foot may thus be produced; for if, instead of the entire extremity being weak and helpless from the disease, we have the paralysis limited to the extensors or flexors of the foot, this deformity will result. As I have repeatedly shown you, we

have always atrophy associated with it. These features are also present in lateral curvatures of the spine, to which I will now direct your attention, and I hope to convince you that in most cases the curvature is due to the same pathological causes as those seen in infantile palsy and club-foot.

We generally find curvature coming on in early life, and it may involve any part of the spine. I do not think that there is much difference in susceptibility as regards sex; it occurs about as often in girls as in boys. Where it comes on later in life, it is generally owing to certain changes going on in the body, which do not commonly act in childhood; for instance, there may be shortening of a limb, muscular spasm, rachitis, also growths in the abdominal cavity or elsewhere, which by their weight tend to pull the body to one side, and the patient, by placing himself in the most comfortable posture, acquires spinal curvature. As a result of occupation, we may also find more or less spinal curvature. Here is a specimen, a portion of a skeleton; it is the spinal column and thorax of a patient which I obtained while resident in this hospital. He was an organ-grinder, and carried a very heavy instrument upon this side of the body, which favored the development of this marked curvature; possibly it was entirely responsible for it.

Looking at this vertebral column, which naturally has the antero-posterior curves, you observe that the thirty-one pairs of nerves, which in the natural state pass out of their intervertebral foramina, may, as the result of involvement of their trunks in disease, have their function impaired, and as a result there may be more or less palsy of the muscles to which these nerves are distributed. It is my opinion that lateral curvature is generally caused by weakness or disease of some of these nerves. These large muscular masses upon each side of the spine exert a powerful action upon the movements of the trunk, and in keeping the body erect. Should one side be weaker than the other, or be deficient in innervation, the opposing stronger muscles will overpower the weaker ones, and curvature follow. As a consequence of curvature we find the chest-cavity decidedly changed. The lung is pressed upon in the contracted chest, the heart is displaced, and their relations disturbed. As a result of the pressure upon the heart, we may have palpitation,

functional disturbance, irritable heart, and symptoms of disturbed circulation. All of these patients also complain of shortness of breath. In every case of lateral curvature there is also a coincident curve of the spine in another portion of its extent, in the cervical, dorsal, or lumbar region. This one point is to be remembered: *whenever we have a curve in one portion of the spinal column, there always exists a compensating curve in some other portion.* The first curve is pathological, due to disease; the second is physiological, and is compensating or accommodative. In dorsal curvature, for instance, the first curve will have its convexity to the weaker side, and its concavity to the stronger side; but below the curve is in the opposite direction.

Not only do we have this lateral curve above and below, but we also have more or less of rotation or twisting of the vertebral column in addition; the bodies of the vertebræ are rotated upon their axes to a greater or less degree, thus producing three curves, the pathological, the compensatory, and the rotatory.

Here is a good case to illustrate this point. It is a woman about 35 years of age. You notice that the spinous processes bow over very much to the right side; the ribs upon this side likewise bulge out at their angle, just as you observed in the specimen. As I indicate the middle line of the back, you see that the spine takes a marked curve in the dorsal region.

Notwithstanding the paralysis causing the deformity being often due to pressure upon the nerve-trunks, I must also tell you that I believe, in a large majority of cases, the affection is due to the same cause as infantile palsy, impaired nutrition, and as a result we have the same atrophy of muscles following it. By careful measurement you will always find a difference in development of the muscles upon the affected side. This arm is atrophied as compared with that upon the opposite side. The same state of affairs extends elsewhere in the body: the leg also is smaller than its fellow. In this girl's case the convexity is towards the right side, the powerful muscles of the left side, remember, producing the deformity by causing the spine to yield. Upon examination the middle of the right arm measures eight inches in circumference, while the left measures eight and a half inches. This is an old case. The woman has used both

arms in working for her living, so that they have been increased by exercise. Therefore the difference is not so great as it would otherwise be; but a difference exists, and will continue during the woman's life. The same result has been shown to you following hip-joint disease and spinal paralysis, produced in all by nerve-disorder. It is a rule which cannot be overcome, it is a principle that extends throughout the affected side, and we thus find a feeble arm and feeble leg as a result of or accompanying lateral curvature. You will also notice it in front of the body. The mammary gland upon the weaker side is always less developed, so that after examining the limbs and breasts you can very easily determine in which direction the curvature exists. You see it here! Notice the pathological curve in the dorsal region, and see the compensating curve in the opposite direction below.

Here is another point: if you measure the difference between the armpit and the spinous processes, it is less on the weaker side than upon the opposite. The right looks like the fuller, stronger, and better developed side, from the bulging of the ribs, but in fact it is the weaker, and shows the deformity caused by the curvature and rotation.

Now, in this girl's case the spine presents this appearance. (Illustration on blackboard.) We should have the spinal column in the position indicated by the dotted line; but, as you see, it is curved first towards the right, and secondly towards the left, the stronger muscles being upon the concavity of the curve above. Now, when you consider that the nerves coming from the spine are pathologically the same as seen in infantile palsy, you can understand the cause of the atrophy of the muscles and general weakness so commonly observed.

Here is a man 32 years of age. Since he was seventeen he has had this condition of lateral curvature, which has been gradually increasing. This is an excellent example. The curvature is exactly the same as in the girl I showed you a few moments ago. Commencing with the last cervical vertebra and extending to the lower dorsal is a decided lateral curvature to the right side. The ribs are almost at an acute angle, so great is the deformity. The accommodative curve, as you see, runs from the end of the first curve far

over to the left upon the healthy side. He thinks his body is a little longer on this side. See how the right shoulder has been pushed up by the distortion of the chest!

It is a remarkable fact that as soon as a patient begins to show any of these symptoms it is usual to seek the support of a brace of some kind. Now, the objection to their immediately being applied is that they not only increase the weight the patient must carry, but also in the early stages of curvature a patient can be better treated by general means, by rest, diet, general hygiene, etc. Unquestionably a brace is all-important, after improvement in the general health. This brace is heavy,—the man is large, and can bear a heavy brace; but to a child presenting incipient curvature it might do injury: so that the early application of a brace may do more harm than good. This patient, however, has reached such a stage that he could not do without one.

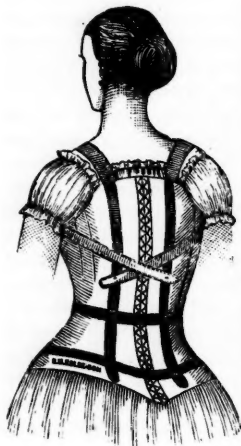
In the mechanical treatment of these cases I use a brace (Figs. 1 and 2) which I now show you; it is one made for me by Kolbe, and I have employed it at the Orthopedic Hospital for fifteen years, and am satisfied with it. The apparatus must rest upon some point of support; in this form it has a band which embraces the pelvis just above the trochanters, but not too far above, or it will slip up. Then from this arise two lateral steel supports, one on each side of the spine, and two more externally, which reach to the axillæ and to which crutches are applied, so as to extend the spine. Straps go over the shoulders so as to make the brace firm and to throw the chest forward. In advanced cases we only aim to make the patient comfortable. I will show you this again when I speak of the treatment of these cases.

FIG. 1.



Both sets of muscles may be affected, but one more strongly than the other. Under an anæsthetic, spasmodic curvature disappears, and

FIG. 2.



and applied a felt jacket. Examination now shows measurement on both sides alike. The cause was obscure; there was no pain connected with it; the boy's general health was perfect, and it was not connected with atrophy; but the spasm was connected with some form of cerebral or spinal irritation.

Now, I expected to have several other cases to show you, illustrating this particular form of disease, but will content myself with these in order to show you several cases of posterior curvature, different in pathology but coming under the same category as regards treatment.

We have now gone over, very briefly, the subject of lateral curvature, and now come to that of posterior curvature, which is a very common affection. As a rule, it is brought about by disease of the bodies of the vertebræ, generally tuberculous in character. If you will examine the history of the patient, you will generally find a tuberculous element. In cases I show you to-day this is eminently so.

Here is a patient 9 years of age. He has suffered no injury. The mother's side of the family has a history of consumption, the grandfather died with "consumption of the throat." Here is a girl 4 years of age, "several members of the family died with consumption." The next case is 5 years old, "father died with

Bright's disease, mother consumption." And so it goes on: in almost every case we get a clear history of tubercular disease.

In all these cases of posterior curvature, or Pott's disease, as it is called, because Percival Pott first accurately described it, the patient first complains of being poorly, he loses strength, has a poor appetite, has difficulty in walking, pains in the loins, but the disease may go on for months without being suspected. One of the common symptoms is that the child trips and falls without apparent cause. The child becomes pale, dislikes exercise, is easily tired, prefers to lie down; the whole character and behavior of the child are different from those of health. On examining the back you find a projection in the child's vertebræ; this is at first only a little bowing, but in more advanced cases is like a knuckle, where marked angular deformity is present.

Here is a second case illustrating posterior curvature. Lateral curvature, as I have just explained to you, is not accompanied by morbid changes in the bodies of the vertebræ; it is only the result of muscular action. When we come to posterior curvature, we find a disease of the vertebral bodies themselves. Tubercular material is deposited in them, they soften and break down, yielding to the pressure of the upper part of the body; deformity is the result; absorption of the diseased vertebræ may occur, and ankylosis follow. So that the deformity in Pott's disease is permanent because there is actual loss of substance in the spinal column.

When the bodies of the vertebræ are much involved it is quite common to have abscess follow, which may present in the cervical, dorsal, or lumbar regions; if the cervical vertebræ are affected, post-pharyngeal abscess may appear, which may produce serious results. This child has a small scar in the right lumbar region which was caused by abscess, and which, after it discharged pus and some small pieces of bone, closed up. When the discharge occurs in front, and the pus, following the course of the psoas muscle, appears in the vicinity of Poupart's ligament, it is called a psoas abscess. The latter may be confounded with inguinal hernia, but this error can easily be avoided by recalling the fact that abscess is always external to the great femoral vessels, while the canal for hernia is always internal. Thus we

may have iliac, gluteal, lumbar, and psoas abscess in vertebral caries.

In the case I now show you the curvature is less marked than some you have seen. In this one the disease begins with the sixth dorsal and extends to the first lumbar vertebra. Fortunately, this child was brought under treatment in time, and we have succeeded in arresting the disease probably before softening has taken place. By the use of early and appropriate treatment, and subsequently by the application of a spinal support, the child has been spared the characteristic deformity so often seen.

In lateral curvature, as I have pointed out to you, atrophy appears on one side, but in posterior curvature this is not the case; there is no such difference between the development of the arms, legs, or mammary gland as in the other cases. The reason is that in the former there is disorder of the nerves, while this is caused by vertebral disease.

The second case has more deformity, because it shows a more advanced stage of the disease. This little boy has a slight bulge in the lumbar vertebrae. We learn that this came on rapidly. The child was brought to the Orthopedic Hospital suffering with lassitude and other symptoms which I have already referred to as early observed in Pott's disease. He was put at rest in bed, given a regulated diet, cod-liver oil, and phosphates, when his general health improved; a support was applied, and the child allowed to get out of bed, taking exercise very guardedly. By these means we have succeeded in arresting the disease.

It is very interesting to note how great an amount of change we may have in destruction of the vertebrae and spinal deformity, without the impairment of the structure of the spinal cord itself, or its functions.

This is a specimen, showing great angular deformity, which I obtained while resident here, in which the bodies of five vertebrae have been absorbed without any encroachment upon the spinal canal itself, and the cord was uninjured. So that in many of these cases, of children especially, the growth may be stunted in height, but the bodies will be well developed and vigorous. It occasionally happens, however, that the spinal cord becomes involved, or the inflammation extends to its membrane, so that paralysis follows; and I have

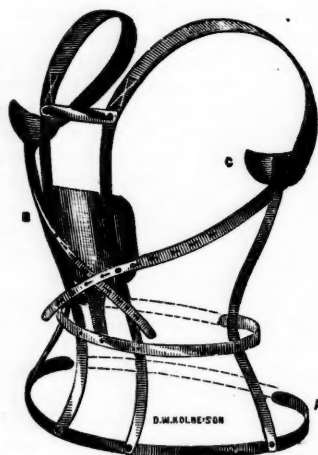
at the present time a boy under my care, five years of age, with almost complete palsy of the lower extremities; but such an accident in the course of the disease is exceptional.

Now, sometimes, instead of the bodies of the vertebrae undergoing this degeneration, with softening and abscess, we may have a change of a more chronic kind, and we find ankylosis occurring without abscess. Sometimes we have deposits occurring around the spinal column, the result of inflammation of gouty, rheumatic, or other character, and, without loss of tissue, ankylosis results. This is shown by this young man, who has a stiff neck. He is able to go about and earn his living, but he cannot turn his head without moving his body. I was at first afraid that the disease was going on to the formation of abscess, and would cause trouble, but, fortunately for him, the disease was arrested, and ankylosis resulted. Upon examination, I find a good deal of osseous structure around the vertebrae, and much rigidity. Still, he has improved a good deal within the past four or five months. He can now move his head to either side to some extent. The rest of the spinal column is perfectly healthy.

With regard to treatment in cases of vertebral disease or posterior curvature, rest at first constitutes the most important point in the treatment,—rest upon the back in the horizontal position. Proper food and hygienic care are also essential elements to success. But prolonged rest for a child is to be deprecated: he needs fresh air, and may be carried out upon his mattress, and allowed to remain in the fresh open air. During this period a very light form of spinal brace can often be judiciously applied to keep the spine in a normal position. When the acute process is over, and the child is allowed to get up, he will need a firmer sort of spinal support to prevent the pressure from above crushing the vertebral bodies which have been softened by disease. We must therefore apply an apparatus to take off the weight of the upper part of the spinal column. The plaster jacket is useful and cheap, and answers a very good purpose; it may be also fixed with a head-rest. But the objection to this form of jacket is that it is difficult to get on and off; it presses upon certain parts, and may lead to ulceration before it is detected: especially in hot

weather is this likely to occur: I have seen this more than once. As they cannot be removed for purposes of cleanliness as often as other forms of braces, they frequently become uncomfortable and unhealthy. In the first little girl I showed you, there was an ulceration upon the prominent portion of the spine the size of a dollar, which was not suspected until the jacket was removed. So that in all cases in private practice I prefer to put on the form of brace I have shown you. It is a frame of light bands of steel covered like a corset. In this skeleton frame (Fig. 3) you can see its construction, which I have already described. The lower steel band encircles the body just above the

FIG. 3.



trochanter, fitting so closely as to fit in between the trochanter and the crest of the ilium. The steel bands are well padded, and accurately embrace the body. In some instances I add a "hand," made of steel and padded, which makes pressure to any extent upon the feeble projecting side.

In order to prevent the shoulder-straps from irritating by their pressure as they pass around the armpit in front, I have had a slot made in the crutch through which the bands pass. All parts of the brace are well padded, and when finished it has the appearance of a corset. The uprights are made so that they can be lengthened as the child grows. I know of no brace which better fulfils the indications than this one.

I have shown you the application of the spinal brace, and on a former occasion the

felt jacket. As some of you may not have seen the plaster cuirass applied, I will now have one put on before you. This extension apparatus is used to suspend the patient and stretch the spine while the plaster is applied. It consists of a pulley with head- and arm-supports. This apparatus is also very useful as a means of gymnastic exercise for the spinal muscles, which in some cases should be used daily, keeping up the spinal extension for five or ten minutes morning and evening. It is important in using extension to be careful to see that the traction upon the neck and arms is equally divided. The rope is then gradually pulled, drawing up the patient as high as desired; but there should be no pain in the neck and shoulders. When the spine is in this extended position, the child usually experiences relief. While applying the permanent plaster dressing, it is only necessary to lift the patient until he can just touch the floor with his toes. The bandage is not applied directly to the skin, but a closely-fitting merino shirt is kept on under the jacket. There is also a towel folded up and placed in front, to allow some freedom of movement after the jacket is dry. It is called a stomach-pad, and is to be removed as soon as the plaster has set. Wherever any pressure exists, some loose cotton is laid on, to prevent excoriation of the prominent points.

The bandages are simply rubbed with dry plaster before rolling, and are dipped in warm water just before they are applied. Some plaster is also rubbed on with the hand between the layers of bandage. From four to five layers of bandage are sufficient.

With regard to the length of time the bandage may be kept on, it depends upon circumstances: in the summer, when the child is perspiring a good deal, it cannot be worn longer than a month; but in winter it will last longer without being spoiled. If the jacket is well made, it may be slit down the front and fitted with eyelets and lacing so as to be worn like an ordinary corset. This, however, can better be done with the felt jacket, which is lighter, cleaner, and lasts longer.

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IN cases of alcoholic coma, the introduction of a pint of hot coffee either into the stomach or the rectum is a safe and efficient expedient.

## ORIGINAL COMMUNICATIONS.

## IS THE MECHANICAL IRRITATION OF THE OPTIC NERVE ALWAYS FOLLOWED BY A SENSATION OF LIGHT?

*Read before the Philadelphia County Medical Society,  
January 17, 1883.*

BY M. LANDESBURG, M.D.

JANUARY 26, 1878, a boy was brought to me whose right eye had been extirpated July 4, 1875, immediately after it had suffered injury from a gunshot. Eighteen months later, symptoms of irritation and of impairment of vision began to develop in the left eye, which, at the time of my examination, showed neurosis and amblyopia, with marked hyperæsthesia of the retina. This affection, of sympathetic origin, was due to the incarceration of the central end of the optic nerve in the connective tissue of the right orbital cavity. The latter was flat and shrunken; the orbital conjunctiva was highly congested, tightly stretched, and drawn, by means of cicatricial bands, towards the apex of the orbit, in the centre of which we found the macerated end of the optic nerve, embedded in a mass of yellowish pus. This end of the optic nerve was so exceedingly sensitive to pressure that even the slightest touch with the end of a probe caused the most agonizing paroxysm of pain. The whole body bent under the shock. The features of the face became distorted. Tears ran down the cheeks. The lids closed spasmodically. The left eyeball became injected. *But there was no sensation whatever of light in consequence of the irritation of the optic nerve.*

This fact, with the history of the case, I published in the June number, 1879, of *Zehender's Klinische Monatsblätter für Augenheilkunde*, a German monthly periodical of ophthalmology. I did not feel qualified to draw any conclusions from the single observation, the more so as I was not able at the time to answer affirmatively the preliminary question, whether I had to deal in this instance with a nerve which still possessed the physiological properties to convey the stimulus to the brain to be converted there into a sensation of light. But, my attention having now been directed to this subject, I made it a point to investigate in every proper case whether the physiological dogma is based on rational fact,

which teaches us *that every mechanical irritation of the stump of the optic nerve will always give rise to a sensation of light.*

These investigations I have made during a period of four years, in twenty-eight patients, in all of whom the integrity of the optic nerve could be assumed with all certainty. For my present communication, however, I can only make use of the results which I have obtained in seventeen patients, rejecting the testimony of all those upon whose sound judgment I could not entirely rely. It is a most difficult problem we have to deal with, and I am deeply sensible of the disadvantages under which we labor in these investigations, in which we cannot bring to bear the evidence of our own senses, being wholly dependent upon the statements and assertions of persons who, for the most part, have not been educated under circumstances peculiarly fitting them for the task they are called upon to fulfil. However careful we may be in selecting the proper individuals, however cautious we may be in our proceedings, we cannot hope to stop all sources of error. There are two ways in which to make these experiments,—either to leave the patient in entire ignorance of the aim and scope of our investigations, or to make him acquainted with the phenomena which are likely to follow the irritation of the optic nerve. By the former method we will hardly attain any result whatever. The answers of the patient will run in every direction possible, except in the proper one, and even he who might have a sensation of light will forbear mentioning it, being unable to understand the phenomenon and to account for it. By the latter method we run the risk of prejudicing the mind of the patient, of working up his imagination, and of causing him to give us images of his illusions for actual sensations.

I have combined both methods, leaving the patient at first to his own judgment, and trying to get an objective statement of the sensations he had consequent upon my manipulations. If, on repeated experiments, he failed to make any allusion to a perception of light, I then explained to him the matter in question, and that I only wanted to know whether my irritating his optic nerve caused him to have a luminous impression. In every instance the truth of the assertion was repeatedly put to test. In patients whom I operated on without narcosis, I deferred the investiga-

tions until they had fully recovered from the shock of the operation, and in those in whom I had to administer an anæsthetic, I waited with my experiments until they had regained the full use of their mental capacities, until they were able to answer judiciously my questions. In the seven instances in which I performed the enucleation of the globe without narcosis, I requested the patients to pay the strictest attention to the sensations they should experience at the very moment of having the optic nerve divided, of which act they were informed by a special signal agreed upon beforehand. Of the seven patients, six complained of a sensation of intense pain at the very moment the optic nerve was cut, and only one claimed to have had a luminous sensation. But this very patient was one of the eleven whose testimony I had to reject in consequence of the contradictory statements they made at every renewed experiment.

The material upon which the investigations are based is as follows:

Four cases of deep injury of the eyeball.

Four cases of foreign bodies in the interior of the eyeball.

In all these instances the enucleation was performed shortly after the accident.

One case of sarcoma of the iris. Vision =  $\frac{1}{8}$ .

One case of sarcoma of the choroid and one case of sarcoma of the orbit, with quantitative perception of light in all parts of the visual field.

One case of epithelioma of the cornea. Counted fingers at 6'.

Two cases of detachment of the retina, in which the patients suffered from the most distressing subjective sensation of light.

One case of malignant hemorrhagic glaucoma, in which the globe had to be removed on the eleventh day after iridectomy had been performed. Before the latter operation V =  $\frac{1}{200}$ .

One case of phthisis of the eyeball following an operation for cataract. The enucleation was done on the third week after the operation for cataract.

One case of total leucoma of the cornea, with secondary glaucoma. Loss of vision five weeks previous to the enucleation, in consequence of smallpox.

The special course of the investigations, and the results gained by the latter, are as follows:

1. Patients are left in total ignorance of the aim and scope of the experiments. The stump of the optic nerve is pressed either with a probe or with a pair of forceps, and the patient is asked to tell what sensations he has experienced in consequence of my procedure.

*Sixteen patients stated that they had only felt great pain, and nothing else. A sensation of light was asserted by one patient.*

These statements were corroborated by repeated investigations.

2. Patients are made acquainted with the problem which they are called upon to solve.

The consequence of this explanation was that now I invariably obtained from three patients *the positive statement of their having experienced a sensation of light every time I produced a mechanical irritation of the stump of the optic nerve.* The luminous perception was the more intense and distinct, the greater the stimulus which acted upon the optic nerve.

*But in all the other thirteen cases the result of the experiments remained negative.*

What was the meaning of these negative statements? Obviously they could only be explained by one of two causes. Either the mechanical irritation of the optic nerve did not produce any sensation of light, and the testimony was in exact accordance with the facts, or the mechanical irritation of the optic nerve gave rise to a sensation of light, but the patients were either unable to direct their mind to its perception, or were too slow to interpret immediately the sensation. If it were possible, I reasoned, to demonstrate before the very eyes of the patients the phenomenon in question,—if we could show them, for the purpose of illustration, a tangible object by which to help their perceptive faculties,—the results of the experiments might turn out quite differently.

In order to bring the question to a final issue and to make the experiments conclusive, I took the patients into a darkened room, and pressed with the top of my finger upon their healthy eyeball, producing in this way phosphenes which were readily perceived in all instances. This fact having been established, I explained to the patients that I only wanted to know whether pressure upon a certain spot in their orbits would excite similar luminous sensations.

When after this preliminary demonstration the experiments were repeated, I ob-

tained from four patients *the positive statements of their having perceived a flash of light on the side corresponding to the removed eyeball, the very instant I pressed upon their optic nerve.* Two of the patients maintained that they had experienced the same kind of luminous impression in the precedent experiments, and that the only reason of their having failed to mention this sensation was their belief that they had perceived these flashes of light with the healthy eye. Their utter amazement at the notion that they were able to "see light" after the eyeball had been removed was to me the best evidence of the truth of their assertion.

*But still the results of my investigations remained negative in nine instances. Mechanical irritation of the stump of the optic nerve caused the patients to complain only of pain, but without perceiving any sensation of light.*

Of the eight patients in whom the result was positive, there were four who, operated on without narcosis, had emphatically denied any sensation of light during the division of the optic nerve.

#### IS THE CHORDA TYMPANI A SEPARATE AND DISTINCT CRANIAL NERVE?

*Read before the Philadelphia County Medical Society,  
January 17, 1883,*

BY CHARLES H. BURNETT, M.D.

I SHALL answer this question affirmatively by reporting to you some recent investigations of Dr. Sapolini, of Milan, concerning the origin and distribution of this badly-named and much-discussed nerve.

In all anatomical books the chorda tympani is described as a branch of the seventh or facial nerve, and in most physiological works this nerve is considered as presiding in some way over the sense of taste and the functions of the submaxillary gland.

Furthermore, let me recall to your minds that all anatomical works describe a so-called intermediary nerve of Wrisberg, a nerve-filament lying between the seventh and eighth nerves at their apparent origin, and first described by Eustachius Scarpa, some years after Wrisberg, stated that the intermediary nerve of Wrisberg received its origin in part from the groove between the seventh and eighth nerves, and also

from filaments of the ninth, the glosso-pharyngeus. Sapolini, however, whose work we are now specially considering, is convinced from repeated anatomical investigations that the nerve discovered by Eustachius and Wrisberg, and which bears the name of the latter, is the proximal part of the chorda tympani, which really takes its origin in the floor of the fourth ventricle, and terminates in the muscles of the tongue.

In his brochure entitled "A Thirteenth Cranial Nerve," published in Milan, 1881, Sapolini gives the detail of his dissections, beginning at the calamus scriptorius, and advancing to the ganglion geniculatum in the genu of the facial canal. He claims to show that there exists a nerve lying close to, but entirely separate from, the facial nerve up to this point, the ganglion geniculatum. He then proceeded to dissect the chorda tympani nerve, from the tympanum backwards to the aforesaid ganglion geniculatum in the facial canal, and found that the chorda tympani was one and the same nerve as the intermediary nerve of Wrisberg, which he had already traced from the brain to the geniculate ganglion.

To dissect the chorda tympani farther onward from the tympanic cavity through the canal of Hugier, in the Glasserian region, to its junction with the lingual branch of the fifth nerve, is comparatively easy. From this latter point, viz., the anastomosis of the chorda and the lingual nerve, with most patient labor, he has found that the chorda tympani forms a dense plexus with the lingual nerve, distributed to the muscles of the tongue, and for this plexus he proposes the name of "plexus tympano-lingualis."

The entire length of the thirteenth cranial nerve, for which the name chorda tympani may as well be maintained, is 267 millimetres, divided into tracts as follows:

	mm.
From the calamus to the fourth ventricle	33
From the fourth ventricle to the pons varolii	15
From the pons varolii to the ganglion geniculatum	30
In the ganglion geniculatum	6
From this ganglion to the so-called loop, where it has always been said to leave the facial nerve	17
From this loop to the bony pyramid, where it enters the tympanic wall	14
Through the bony wall of pyramid	2

Through the tympanic cavity . . . . .	9
From the exit from the tympanic cavity to its union with the lingual nerve . . . . .	37
From this union to the formation of the plexus tympano-lingualis . . . . .	34
From the beginning of this plexus to the apex of the tongue . . . . .	70

A few weak fibres pass from this nerve to the submaxillary gland and ganglion,—entirely too small a number, however, to make it probable that the only function of this nerve should be the innervation of this ganglion and gland. This nerve, the thirteenth nerve, as its describer calls it, is distributed to the muscles of the tongue, where the plexus formed by it is joined by a few fibres from the glosso-pharyngeal.

Sapolini thinks that, from its origin in the corpora restiformia and the lateral cords, the nerve must possess both sensitive and motor fibres.

It is a surprising fact that the filaments from the thirteenth nerve are distributed to the muscles of the tongue, far surpassing in number those of the lingual nerve, which supplies chiefly the superficial tissues of the tongue.

Surprised at the large number of fibres from the thirteenth nerve in the muscles of the tongue, Sapolini has come to the conclusion that their mission must be a special one. He believes that the lingualis of the fifth and its anastomoses with the glosso-pharyngeal give to the tongue sensibility both as to touch and taste; the extensive movements of the tongue, as in deglutition, may depend upon the hypoglossus and the lingualis of the seventh.

But this so-called thirteenth nerve, the chorda tympani, Sapolini thinks should be called a nerve of speech. The theory runs as follows. The voice must be formed into letters, and further into words. A vowel cannot be formed without a special movement of the tongue, and in no way can consonants be accented without special and simultaneous contraction of one or more intrinsic muscles of the tongue. It is believed that the chorda tympani, or the thirteenth nerve, presides over this function of the tongue.

When a child begins to articulate, the monosyllable or the word which it attempts to pronounce begins with the vowel *a* or *o*, which requires the least motion of the tongue. The slow progress in articulation the author believes to correspond with the late manifestation of the white nerve-

fibres, which subsequently appear on the floor of the fourth ventricle.

Speech belongs exclusively to man, but with perseverance a parrot can be taught to talk. If, after parrots are so taught, their chordæ tympanorum be cut, as Sapolini has done in two instances, the parrots cease to talk.

Two pathological cases in man are mentioned: one in which a blow on the temple was followed by diminished hearing and impeded speech. Here the concussion is supposed to have been conveyed to the chorda in or at its exit from the tympanic cavity.

In the second, necrosis in the region of the Glasserian fissure and canaliculus chordæ is very justly supposed to have involved the chorda tympani nerve, and to have thus caused very great impediment in speech.\*

In conclusion, let me lay before you a clinical observation, which must have been made by all present,—viz., that if a talking child under six years of age loses its hearing in both ears, it often simultaneously shows either great impediment or loss of speech. In such cases the child cannot have forgotten all at once how to talk, nor can it be reasonably maintained that so young a child is deterred from speaking simply because he cannot hear himself and is ashamed or afraid of making mistakes.

May it not be that in some instances the disease in the ear which has produced the deafness has also injured the chordæ tympanorum in their passage through the tympana, and thus abrogated their influence over the muscles of the tongue, and led to an impaired ability to talk?

#### RIGHT HEMIPLEGIA, WITH SPEECH AND MENTAL DISTURBANCE—RECOVERY.

BY DR. GLASGOW.

THIS case was the person of a female, aged 36 years, married, and the mother of one child, five years old. The woman had for a long time been in indifferent health, headache being a frequent occurrence and constipation habitual. One year and a half ago she had an

\* Those who may desire an almost complete translation of Dr. Sapolini's brochure are referred to the very elaborate review of it by Dr. Vermeyne, of New Bedford, Massachusetts, in the American Journal of Otology, 1881, vol. iii. p. 312.

endometritis, and since that time a mild attack of typhoid fever. On the 2d of December, 1882, while she was standing ironing clothes, she suddenly felt her right side become numb and weak, and when she attempted to speak of the trouble to her husband, who was near, she found that she was unable to talk plainly. In a short time she vomited and had to be put to bed, being very nervous and crying much. Thirty-six hours after this, viz., early in the morning of December 4, the woman had an attack of spasm. This was seen by her husband and one or two others, and from the account given by them it would appear as though tonic spasm predominated.

This condition was followed by a period of apparent coma, lasting four hours, during which time the woman lay with her eyes open, but seemed not to see or hear anything. When she returned to her senses, it was found that her right arm and right leg were completely paralyzed, and that she could utter monosyllables only. In two or three days her speech became somewhat better, and she recovered to a certain extent the power of her leg. She got out of bed and down one flight of stairs unaided, when she became very weak and had to be put again to bed, and the paralysis and speech-trouble returned, and remained so to the time I first saw the woman, December 28, about four weeks after her first seizure.

On examining the patient carefully, I observed that all the movements of the face and eyes were retained and the pupils were equal; her tongue was protruded with apparent difficulty, but did not deviate markedly; a white fur covered the tongue, and the mouth was pasty.

The right arm and leg were completely helpless: the muscles responded well, however, to a rapidly-interrupted current of moderate strength. There was no apparent sensory disturbance except in the right leg. Handling the leg or applying the current to it caused the woman to complain of pain. Later it was observed that sinapisms to the leg provoked like expressions of pain. The patella reflex differed not in the affected leg from the sound one. They were, however, either exaggerated or very marked for the normal condition.

The speech-disturbance was as follows. The woman could say "I," "yes," and "no," frequently using "yes" in the place

of "no," and *vice versa*. Early in her sickness she was reported to have said, "I want to talk, but forget what I want to say." The speech-trouble varied much from day to day, the patient at one time being able to use the words mentioned only, at another time being able to speak moderately well, although the trouble had not at any time disappeared entirely.

The mental condition also seemed peculiar. When I first saw the woman, she lay with her eyes half closed, sometimes answering the questions addressed to her, at other times paying no attention whatever, seemingly unable to read writing, appearing very much indeed like a person semi-narcotized. The case was certainly puzzling, a state of affairs not lessened at all by the statements of the attendants that "paralysis ran in the family." Of this I could, however, obtain no definite history. Laxatives were now administered, and light, nutritious food ordered. In two or three days the aphasia became very much less, and the semi-narcotized condition began to disappear. In about a week the patient talked well and could raise her hand to the top of the head. In another week all the symptoms were gone, and the woman was well apparently, except general weakness. The question which naturally suggests itself here is, What was the lesion? From the prompt and perfect recovery made by the case, it is, I think, perfectly plain that no part of the nervous machinery was broken. An embolus, temporarily disturbing the cerebral circulation, might account for some of the symptoms, but scarcely for all of them, and, moreover, the woman's heart was sound and there was no history of rheumatism. To say that the woman had an hysterical hemiplegia would be a very convenient and doubtless correct explanation of the trouble.

This condition is very clearly set forth by Todd in his "Lectures on Nervous Diseases," and by Weir Mitchell in his book on the "Nervous Diseases of Women." In a series of lectures, which can be seen in the London *Lancet* for 1874, Paget goes over the whole range of the nervous mimicry of organic disease. To these authors any of our readers who are interested may profitably refer. My own disposition is to believe that the woman suffered from cerebral exhaustion, for certain it is as anything can be that her recovery was aided by the use of tonics, lax-

atives, rest, good food, and fair promises. The treatment of paralytic women calls for the exercise of more than ordinary vigilance, and it would probably be well to keep back, temporarily, one's opinion in such cases; and, even after the case becomes plain, little good will be done by exposing its true nature.

### THE DIFFICULTY OF DIAGNOSIS IN ABDOMINAL TUMORS.

BY W. THORNTON PARKER,  
Acting Assistant-Surgeon U.S.A.

THE following quotation occurring in a recent work on gynæcology, "the diagnosis of abdominal tumors being generally one of much difficulty to the *student*," receives from Dr. Van de Walker, the reviewer of the work, this excellent criticism: "Now, we would like to know when *that* period of life ceases, and the illuminated moment comes, when the abdominal diagnosis is easy."\* That difficulties attend the diagnosis of all abdominal tumors needs no proof; but the following case may be instructive, and a good illustration of the subject under consideration. I will mention it briefly.

Henry V., English, aged 33 years; tall, lean figure; formerly a member of H.M. Life-Guards: of excellent character, married. Came to this country and enlisted in the U. S. Army; served mostly on extra duty as a painter. After expiration of service, engaged regularly in the business of house-painter; was last employed painting the cabin-rooms of a Hudson River steamboat, when he was taken sick and applied to a regular physician for treatment. His symptoms and history suggested lead-poisoning, but, not receiving the desired benefit from the treatment used, he placed himself under the care of a homœopathic practitioner, who treated him for obstinate constipation with small and repeated doses of castor oil. Not improving under this treatment, he again sought advice from regular physicians.

He received no benefit from any treatment employed, and became rapidly worse.

A few weeks before his death, and about eight months after he was taken ill, he came under my care. I found him much emaciated, feeble and anxious, complaining of severe pain and pressure in the abdominal region. He stated that his bowels had remained in a constipated state for nearly three months. Upon examination, a large tumor was found to exist, occupying a considerable space in the epigastric, umbilical, and left

hypocondriac regions. The neglected constipation suggested a fecal tumor. By the use of repeated injections with a long rectal tube, large quantities of fecal matter came away. Tonics, extract of malt, and the most nourishing food rapidly improved the condition of the patient, both physically and mentally. This very promising state of affairs continued for two or three weeks, until at last no more fecal matter could be brought away. About this time the abdominal pain increased; mental depression, loss of appetite, sleeplessness, and general exhaustion followed; the cheerful, hopeful condition of the patient was gone; agonizing pain increased hourly; he rapidly sank, and died in great suffering. Autopsy, sixteen hours after death, revealed great emaciation, and upon opening the abdominal cavity a very large encephaloid cancerous tumor was found, weighing about thirteen pounds. It was firmly fixed, having formed numerous adhesions involving the duodenum and pancreas to a very great extent. The tumor was very spongy in character, and filled with a whitish and yellowish fluid. This growth seemed to have had its origin in lymphatic glands situated in the vicinity of the first and second lumbar vertebrae. Its rapid growth and the short time the patient suffered lend interest to the history of this case.

"No tumors present a greater variety of appearance upon section than those of soft cancer. Differences of structure occasion many of these varieties, and others arise from the fact that, being abundantly supplied with blood, the tumors are exposed to all the changes and accidents which great vascularity involves."†

The obscurity which veils the origin of so many of these cancerous growths seems to baffle the skill of those most familiar with them.

In the case just mentioned, the patient had been a cavalry soldier, in the habit of wearing a heavy sabre, and, naturally of thin figure, the pressure of tightly-buckled belt, and the sudden jerks of the sabre on the belt in the violent military exercises, *may* have been the origin of this fatal tumor.

In such cases it is also interesting to consider how much severe mental suffering may contribute to the formation of such growths.

It is without doubt true that the system weakened by nervous exhaustion is in a state ripe for the development of *all* diseases; but how much acute mental suffering actually stimulates morbid growth and processes remains to be investigated.

\* Amer. Jour. Med. Sci., July, 1882.

† Holmes's System of Surgery, vol. i. p. 568.

## NOTES OF HOSPITAL PRACTICE.

BELLEVUE MEDICAL COLLEGE,  
NEW YORK.CLINIC OF PROF. LEWIS A. SAYRE, OCTOBER 14,  
1882.

GENTLEMEN,—I bring before you to-day this young man, who came to my office an hour ago with supposed disease of the knee-joint of nine years' standing. He had about made up his mind that it was incurable, and the medical gentleman who had been treating him advised amputation; he, however, would not consent until he had seen me and obtained my opinion. I brought him here to you as there is nothing the matter with the knee at all. He has been under homœopathic treatment for nine years, being treated for what he was told was scrofulous disease of the knee-joint. You will observe his right leg is perfect, but when you look at his left knee you would think there was great deformity, because it looks so much larger than the other. He had, when he came to me, a red flannel bandage bound around the left leg and lower part of the thigh, almost tight enough to cut off the circulation of the limb below, which has caused atrophy of the muscles. (The house-surgeon now took the measurement of both knees and thighs and below the knee.) You here observe that upon taking the measurements of the knees we find them to be precisely alike. There is no atrophy at the knee, but the muscles above and below the knee are atrophied by means of this tight bandage he has worn. The knee retains its normal size because he could not stop the circulation of the bones. Our measurements here show the left thigh to be two inches smaller in circumference than the right, and the left leg is one and a half inches smaller than the right, but the knees are precisely the same. When I press this knee with all my power, I produce no pain whatever; he cannot extend this left leg quite as fully as he ought, because the biceps, semi-membranosus, and semi-tendinosus muscles have become contracted; at the same time the quadriceps is enfeebled for want of use. The knee-joint has become dry for want of use. Nature does not secrete synovial fluid unless it is to be used; if it were not so, we would all have dropsy of the joints if we were confined to our bed for any length of time.

So here in this case there is no disease of the joint; it is a dry joint; it wants simply friction and massage, and to be used every day. You see he can bring his leg almost straight by a great effort. As he does so, I place my finger upon his leg and press gently down, and thus cause him to make greater effort and bring the muscles into action. This is all the treatment required; there is no disease here whatever.

This young man has been taking fifteen doses of homœopathic medicine a day for nine years, and comes to me from the interior of Pennsylvania, having been advised to have the leg amputated to save his life; and you see how simple the treatment required in his case, and how slight the difficulty under which he is really suffering.

I present you here with the case of a little boy. He was brought to me a year ago; I was sick in bed at the time, and made an imperfect examination, and therefore an erroneous prognosis. He has returned to me again to-day, and I have asked the father to bring him here to-day that you may see the mistake that I have made, in order that you may not fall into the same error. Wherever I have made an error, I will endeavor to bring the case before you, as by this means you will learn more than from any theoretical teachings I might advance in relation to the case.

Those who have heard me lecture before will remember my general rule as regards tenotomy,—namely, that all muscles, tendons, or fascia that can be brought to their normal position by gradual traction should never be cut, but if you find that you cannot bring them to their normal position you must cut them; and yet in this case before you I neglected to follow my own instructions. Now, if any tendon, muscle, or fascia, being stretched to its utmost, still retains the part in an abnormal position, if upon point-pressure being made upon this tendon, muscle, or fascia when it is stretched it produces a reflex spasm, that tendon has become contracted and can never be stretched further, and must be divided before any satisfactory result can be secured; whereas if you put it upon the stretch, and upon point-pressure being made it gives no reflex spasm, by gradual traction it can be brought to its normal position, and does not require section. If it has arrived at the point of structural

shortening which I call contractured, you have a case for tenotomy.

This difficulty was noticed in this child when he was ten months old, after he had recovered from an attack of inflammation of the brain; he then had paralysis of the left leg. He has, however, gradually recovered, but it has left him with want of power in the peroneal muscles, and the weight of his body has now brought the foot into the condition of talipes varus. There is also, as you observe, a slight elevation of the heel: we therefore have the condition of talipes varo-equinus. We have five varieties of talipes,—namely, varus, valgus, equinus, calcaneus, and plantaris; these are generally combined more or less, and the predominating deformity is the leading term of its nosology.

You will observe that on the outer part of the foot it is very tender and sore, owing to the weight of the body bearing on this point, it being, of course, in an abnormal position. Now, about a year ago, when I saw this child, I advised the father to use friction and electricity upon the peroneal muscles. Had I made a more careful examination, I should probably have pursued a different course of treatment. You observe that I can bring the posterior part of the foot to its normal position. The front part of the foot, however, I cannot restore to its natural position; and now, as I bring the plantar fascia upon the stretch and make point-pressure upon it with my thumb, you observe the instantaneous reflex spasm which follows.

Now, the principle involved here is just the same as if a ship were fastened to the shore by a hawser which is stronger than the engines of the ship: the engines cannot break the hawser or move the ship. It is just so here: the plantar fascia is stronger than the electricity I have been trying to overcome it with. Don't you ever make such a blunder.

Now, the treatment is simply this. I take this small tenotome, and, my assistant having brought the fascia upon the stretch, I pass the tenotome beneath the contractured tissues. I turn the edge towards the same, and, with a short sawing motion of the blade, I sever the tissues: this is generally accompanied by a sudden snap, when the blade is instantly returned to its flattened position and withdrawn. The thumb is then placed over the wound, to prevent the admission of air. You will notice that I use

the curved blunt-pointed tenotome in this operation.

(The operation was then performed before the class, no anæsthetic being administered to the child, he hardly making a sound,—showing that the operation, when skilfully performed, is by no means a painful one.)

The fascia being now severed, you observe I can restore the anterior portion of the foot to its normal position, and, the foot being flexed at right angles, it is fastened by a strip of adhesive plaster passing around the board at the heel and carried over the instep. A roller bandage is now bound around the foot, leaving the toes exposed, in order to observe if circulation has been checked. A broad band of adhesive plaster is now carried from the anterior portion of the foot-board up to the tibia, and there secured by the roller bandage passing up the leg, the end of the plaster being reversed upon the bandage, and this in turn covered. The foot is now firmly and securely held in the normal position by this means.

The toes, you will observe, I leave exposed in order to ascertain if circulation has been impeded: if it has not, you can let the bandage remain for ten or twelve days.

(At the following clinic the child was returned, and the dressing removed for the first time. The wound was found to be entirely healed, and the foot restored to its normal position. The following treatment was then ordered: the application of a club-foot shoe, and also Hudson's elastic muscles, for the purpose of flexing the foot.)

I have here also, gentlemen, a little girl, the daughter of a physician who resides in Texas, and who has sent her to me. Recognizing the benefit which it may be to you, he has kindly allowed me to bring her before you. She cannot stand alone. You observe that there is complete paralysis of the muscles. The right leg is completely paralyzed. She can, however, flex the toes; and that is about all the power she has. She cannot bring the foot up. On examination, I find a deformity at the knee-joint and also at the thigh. I think the instrument she has been wearing has caused the difficulty at the thigh; as you will observe that it only runs half-way up, and at this point the femur has become bent: the instrument has borne the weight of the body at this point and pressed upon the thigh; and you now observe that by

gentle and forcible pressure I can even spring the femur straight. There is also sub-luxation at the knee; the tibia is sub-luxated outside of the external condyle. I have now succeeded, as you observe, in forcing it back into place. The leg below, you notice, is undeveloped, and has a bluish appearance. There is pure varus of the foot, and yet I can very readily bring the heel to its proper position; and now I make firm pressure upon the tendo Achillis after putting it upon the stretch, and I produce no reflex spasm, showing the tendo Achillis does not need section. The anterior part of the foot from the metatarsal junction is bent downward, as you observe. I will now try to restore it to its normal position; but I find that I cannot do so, and upon bringing the plantar fascia upon the stretch and making point-pressure upon it, you observe instantly a reflex spasm which takes place. It is, therefore, absolutely impossible to make any progress in the treatment of the deformity of the foot until the plantar fascia is cut and the contracture removed. This being a private patient, I cannot perform the operation before you. I will, however, endeavor to bring the case before you again at a future clinic. (The following operation was afterwards performed at the residence of the patient, an anæsthetic being administered. The heel being brought into the normal position, the plantar fascia was put upon the stretch to its utmost capacity; a small curved blunt-pointed tenotome was then passed beneath the plantar fascia, the edge of the blade was then turned towards the contracted tissues, and with a short sawing motion they were completely severed; instantly the blade was returned to a flattened position and withdrawn, the thumb being placed over the wound in order to exclude the air. The foot was then brought to the normal position and dressed in the same manner as in Case No. 2.

Upon the following day no constitutional disturbance of the patient could be detected.)

### TRANSLATIONS.

RESULTS OF THE OPERATION FOR THE TOTAL EXTIRPATION OF THE UTERUS.—Olshausen (*Archiv für Gynäkologie*, Bd. xx. Hft. 2) reports the results of his experience from the vaginal method of extirpating the uterus, and to the paper are appended

expressions of the views of other operators. Twenty-three cases in all had been treated in this way by the author: three of these, however, were not completed. In one case on account of rectal, and in two on account of vesical growths, there occurred either recto-vaginal or vesico-vaginal fistulæ. Of the remaining twenty, fourteen survived the operation, six died. In nineteen there was carcinoma of the cervix, in three either cancer or sarcoma of the body of the uterus, in one there was only a small myoma of the posterior wall of the cervix. Of those who recovered from the operation, three were known to have had a return of the disease, and two of them perished. He has abandoned the reversal of the uterus, and in the last eight or ten cases has used the elastic ligature exclusively. Irrigation with carbolyzed solution during operation is frequently repeated. Afterwards a drain is established in Douglas's cul-de-sac, which is protected by iodoform gauze.

Martin, of Berlin, reported thirty-one cases of vaginal extirpation of the uterus. In five the operation was not successful in removing all the diseased structure. Of the remaining twenty-six, four died. He begins the operation by the opening of the posterior vaginal wall, and transfixes and ligatures the divided tissues, so that the subsequent operation is nearly bloodless. He still adopts the tilting over of the uterus, and also always uses drainage. As regards return of the disease, his operations have not been very successful; only a single patient remained free from disease eighteen months after the extirpation.

Kugelman, of Hanover, had not as yet seen a successful case of carcinoma: he therefore considered the operation of total extirpation as applicable more to cases of adenoma with severe hemorrhages than to cancer. Without operation the latter class of patients suffer less than with it.

Sänger, of Leipsic, operated twice. Both survived the operation: in neither was there drainage. The operation was performed according to the method of Czerny-Schröder. In the first case, a return of the disease occurred, with the formation of a high intestino-vaginal fistula; the patient died ten and a half months after operation.

Olshausen had, in cases of tumor-like carcinoma of the intra-vaginal portion of the uterus, amputated the diseased part with sometimes permanent cure. He would restrict the operation of extirpation to cases of malignant new growth, but would not consider it applicable to a uterus merely because there is hemorrhage; in the latter class of cases castration is indicated.

Veit, of Berlin, considered in many cases of cancer of the cervix that supra-vaginal amputation would suffice, and had himself had several cases of permanent cure to report.

Reucker and Martin opposed the statement of Kugelmann, that a pronounced cancer of the uterus is beyond operation, and, in reply to Olshausen, Martin said that castration would not in all cases relieve that severe bleeding from the uterus, as one of his cases had demonstrated,—*"Verhandlung den Gynäkol. Sektion der Naturforscherversammlung in Eisenach," Centralblatt für Chirurgie, No. 3.*

**REFLEX COUGH, SPLENIC OR HEPATIC, WITH CACHEXIA, SIMULATING PULMONARY PHTHISIS.**—In the January issue of the *Revue de Médecine*, Dr. Trastour points out the fact that, like the stomach cough so well known to writers on chlorosis, hysteria, and dyspepsia, there are also splenic and hepatic coughs, due to congestion or other disorders of these viscera, and entirely unconnected with pulmonary disease. This engorgement of the spleen and liver may have a paludal origin, or may simply be due to dyspepsia. In either case the removal of the cause will relieve the cough. Some of these cases, from long-continued disorder, exhibit considerable impairment of health, which may well be mistaken at first sight for the cachexia of pulmonary consumption. An examination of the lungs with a negative result, and the discovery of a swollen tender spleen or liver, will indicate both the nature of the case and the proper treatment. If the character of the cough be considered, it will be found to be peculiar; it is nervous, spasmodic, and it is recognized as soon as it strikes the ear of the experienced practitioner. Ordinarily there is no attending expectoration, save occasionally a little clear mucus; the cough is more or less abrupt, more or less frequent, short, not paroxysmal; it often appears—and this is important—at the time of

swallowing food, but especially upon palpation or percussion over the spleen or liver. If there are attacks of fever, the cough is sometimes very troublesome at the period of the chill.

A number of illustrative cases are reported in this paper. The author concludes that the cough itself is of minor importance, but when accompanied by anæmia, emaciation, and signs of impaired health, it may lead to the erroneous diagnosis of consumption and correspondingly incorrect prognosis and treatment. The necessity of examining other viscera, when the thoracic organs give only negative signs, is very evident. In the treatment, counter-irritation by blisters over the liver or spleen is very important, and antiperiodics are often needed.

The pneumogastric nerve is believed not to be the principal agency in exciting this form of cough. The recent experiments of Morel and Arloing (*Thèse, Lyons, 1879*) have demonstrated that contraction of the pulmonary vessels follows painful irritation of the stomach, the liver, and the intestine; and, moreover, that it is by way of the sympathetic that these reflexes reach the lung in order to influence these vessels, and not by the vagus.

**HYSTERICAL CONTRACTURE IN A MAN.**—In a recent lecture Charcot makes the following observations with regard to hysteria in the male sex. Hysteria incontestably can develop in a man, and does so more frequently than would be supposed at first glance. This subject of male hysteria is one of those to which attention has been especially directed of late years, and not less than five theses upon this special subject have been presented to the Faculty at Paris from 1875 to 1880. Briquet had already stated that for every twenty cases of hysteria in women there is, in Paris at least, one of the other sex affected in the same manner. This figure appears to Charcot a little high; but still Klein, the author of one of the theses mentioned, had collected seventy-seven cases of hysteria in the male, to which Charcot added three coming under his own observation, which makes the respectable number of eighty, from whence he concludes that in man hysteria is not truly a very rare affection. One fact brought to light by this work was that, when it is developed in man, hysteria is oftenest hereditary,—this was present in

twenty-three cases out of thirty,—and, further, that hysteria in the mother often caused hysteria in the son.

Another idea resulting from these observations is that the hysterical accidents in man most frequently appear after the age of fourteen years, to the age of twenty or thirty, sometimes later. Without doubt they may also occur in childhood before puberty, from five to fourteen years, but they are more common in the adult. Another point is that men presenting this hysterical neurosis are not necessarily effeminate in appearance; they are, at least in a goodly number of cases, robust men, presenting all the attributes of the male sex,—soldiers, mechanics, married and fathers of families,—men, in a word, among whom one, if not warned, would be surprised at meeting an affection considered by many as exclusively belonging to women. Finally, it may be said that while in man, as in woman, the neurosis may present itself of a blurred type, it is, on the other hand, perfectly established that it may appear in him endowed with all the attributes which belong to the clinical picture of hystero-epilepsy, hysteria major, and grand hysteria. As regards special points, they may be summed up as follows:

1. Hemi-anæsthesia, sensorial and sensitive. This "spot" which characterizes almost certainly the hysterical state, when certain affections which sometimes produce it (cerebral lesion, lead-poisoning, alcoholism) have been carefully excluded,—this hysterical hemi-anæsthesia, in a word, may be encountered in man as in woman.

2. Ovarian irritation, a frequent symptom of hysteria in woman, is wanting in man; but in him, in some cases at least, it may develop from the irritation of a testicle retained in the canal, and pressure of the testicle arrests or provokes an attack.

3. In default of the ovary, we find in man hysterogenic points with the same characters as in woman, but in him the points of election are the bregmatic region, one or the other of the sides of the chest or abdomen, and especially the left flank.

4. Finally, the series of phases of the grand attack of hystero-epilepsy is found equally in man; of which a number of cases have been placed on record.

5. Paraplegic or hemiplegic paralysis, with exaltation or, on the contrary, with disappearance of the tendon reflex, is a phenomenon sometimes observed; still, it

is much more frequent than contracture, which appears to have been rarely encountered.

#### HYPNOTISM AS A THERAPEUTIC AGENT.

—Prof. Achille de Giovanni, having made use of hypnotism in a number of cases, reports (*Clinica Medica della Università de Padova*, 1882) sufficiently satisfactory results to warrant the extension of this method in practical therapeutics. The following is a *résumé* of the cases published:

1. Rachialgia in a broken-down nervous subject, which had been previously successfully treated by massage for contractures of the lower extremities. The artificial hypnotic condition was readily produced. It was repeated every day for a week, during which period the pain ameliorated and finally disappeared. At the same time the *morale* of the patient greatly improved.

2. A woman, 18 years of age, complained of great pain in one leg and pain in the back; afterwards vomiting occurred, and persisted once or twice daily, without being more than temporarily improved by treatment. Hypnotism was tried, all other treatment discontinued. At first she could only be put to sleep with difficulty, but on persisting she was more easily influenced; the vomiting stopped. The cure persisted for at least a month after cessation of the treatment.

3. A nervous woman complained of arthralgia and contracture in the right leg, which improved by application of electricity to the homologous muscular groups of the opposite limb (according to the law of functional antagonism of symmetrical centres of the nervous axis). After an attack of fever without known cause, there was a condition of incomplete right hemiplegia, glossalgia, labio-glosso-pharyngeal paralysis, also an attack of hystero-epilepsy, neuralgia of the shoulder, with an eruption of ecthyma, furuncles, and ganglionic engorgement. Hypnotism could not be induced until the third attempt. From that moment the patient rapidly improved. In a fortnight afterwards, there having been given two or three daily séances during this period, she was completely cured.

4. In a case of alopecia, where it was desired to dissect off a piece of skin for microscopic examination, the operation was done without the knowledge of the patient or causing any pain during the hypnotic condition.

5. A young man suffering with pain in the knee accompanying coxalgia felt relieved; after the hypnotic sleep the pain had greatly diminished.—*Revue de Médecine*.

**EXPERIMENTAL RESEARCHES ON THE INTESTINAL MOVEMENTS, ESPECIALLY FROM THE PATHOLOGICAL STAND-POINT.**—From a series of observations upon animals, undertaken with a view to ascertaining the influence of certain agents upon the intestinal movements, Nothnagel (*Zeitschr. f. Klin. Med.*) formulates the law that "when the intestine contains its normal contents, or indifferent substances, it only reacts by peristaltic movements going from the pylorus to the anus. When, on the contrary, its contents are irritating, there exists at the same time an ascending and a descending peristalsis." With regard to the production of stercoraceous vomiting in acute obstruction, he concludes that vomiting of fecal material should be attributed to abdominal pressure acting upon accumulated matters, which flow, as a result, in the only direction which is open to them,—that is to say, towards the pylorus. In the mechanism of the production of invagination he states that it was seen to be as follows: a segment contracted circularly becomes introduced into the relaxed portion immediately below. As a rule, it disappears spontaneously after a greater or less length of time.

**INTESTINAL ATROPHY.**—Although attention has been directed of late to atrophy of the stomach and its glands, intestinal atrophy has had little study given to it. Nothnagel points out the principal anatomical features, as disappearance of the glands and the villi, transformation of the mucous membrane into a thin web of ordinary connective tissue, without any particular change in the muscular wall. The frequency of this condition, according to this author, is indeed surprising: he states that of the cadavers of adults examined by him fully eighty per cent. presented this alteration to a variable extent and in different degrees. It usually occurs in plaques in the middle of normal mucous membrane or surrounded by a certain amount of catarrh. The cause is unsettled, and perhaps is not uniform; atrophy may occur as the result of a chronic catarrh of the intestinal mucous membrane, or it may follow acute inflammation, especially in infants.

There are no pathognomonic symptoms. Nothnagel has observed that the alvine discharges occurring once a day are soft, instead of being of normal consistence; they do not contain mucus. Further microscopic examinations may possibly explain the etiology of atrophy; which is not to be confounded with simple looseness due to acceleration of the peristaltic movements, which usually produces several stools daily. When the lesions are limited in area and confined to certain regions, such as the cæcum, no appreciable signs are given during life; when it affects a larger portion of the bowel, the symptoms of intestinal indigestion appear in proportion to the degree and extent of the disease.—*Revue Médicale*.

**ANIMAL VACCINE AND ITS CONTAGIUM VIVUM.**—Dr. Wolff concludes an interesting paper on the vaccination question with the expressed wish that the use of animal vaccine lymph should be made obligatory by law. Wherever vaccination is compulsory, the government is under obligation to see that the dangers of the transmission of syphilis, consumption, scrofula, etc., are guarded against; and this can be accomplished only by the use of animal virus.

He has succeeded, in culture-experiments carried through fifteen generations, in isolating the micrococcus vaccinae, which shows great developing energy. His experiments with this, and the details of demonstration, appear in another place.—*Berlin. Klin. Wochenschrift*, January 22.

**PAINFUL FIBROMA BEHIND THE KNEE-JOINT, REQUIRING THE OPENING OF THE ARTICULATION; WITH A SUCCESSFUL RESULT.**—At the last meeting of the Société de Chirurgie, M. Nicaise reported a case of a woman who had suffered for twenty years with a painful growth behind the inner condyle of the femur. The structure, which was found to be a mass of fibromata, was removed, Listerian precautions being observed and an Esmarch bandage used. Although the articulation had to be quite freely opened, the wound healed rapidly without any unfavorable sign. On the seventeenth day the patient was able to walk upon the limb. Special attention was called to the value of the Listerian method, which permits the opening of the knee-joint without serious results.—*Le Progrès Médical*.

PHILADELPHIA  
MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 24, 1883.

EDITORIAL.

THE NEW YORK STATE MEDICAL  
SOCIETY.

THE seventy-seventh annual meeting of the Medical Society of the State of New York was held at Albany from February 6 to 8, inclusive. The principal subject of interest was the amendment to the By-laws proposed by Dr. Squibb, which had been brought prominently before the profession of the State, and diligently discussed, since the adoption of the new Code of Ethics last year. The grounds taken by the opponents of the new code were that the change from the former code was more in the nature of a revolution than of a revision, and therefore more radical than was expected or desired by the constituency of the Society; and that it was adopted at a meeting where only fifty-two members voted in the affirmative. It was therefore recommended to the Society in Dr. Squibb's resolutions, to repeal the action of the former meeting with regard to the Code of Ethics, re-enacting the former code of the American Medical Association. They also called for the appointment of a new committee to review the code, to report at the annual meeting of 1884 any changes that might be deemed advisable; the report of this committee to lie over for another year, in order to be brought before the Society in 1885 for its final action. By a skilful political manœuvre, on a call for the previous question these resolutions were submitted as a whole, and defeated by a vote of 105 to 99 (a two-thirds vote would have been required for their adoption), although if the vote had been taken simply upon the resolution rescinding the action of last year it probably would have been

carried. This is rendered almost certain by the action of the recognized leader of the new-code men, who near the close of the meeting came forward with a resolution to amend the By-laws by substituting for that code the simpler one "that the only ethical offences for which they claim and promise to exercise the right of discipline are those comprehended under the commission of acts unworthy of a physician and a gentleman." If this code be adopted next year, it, in order to be effective, should be accompanied by a supplemental code defining the ethical conduct to be expected of a physician and a gentleman in his public and professional relations; and for this purpose the Society cannot do better than to adopt the code of the American Medical Association. An incidental but a great advantage of this course would be that it would restore the right of representation in the American Medical Association, where any measures the delegates may wish to introduce affecting the standing or dignity of the entire profession may be tried by a jury of their peers.

The ethical question so occupied the minds of the members that they had little time to listen to scientific papers or inclination to discuss medical topics. A number of papers were merely presented and read by title; others were arbitrarily limited in their time of reading by the Business Committee to eight minutes, eleven minutes, and so on, compelling them to be read in a hasty and incomplete manner; and the discussions were equally neglected. There was little to indicate that the members of the Society were met to deliberate seriously upon medical subjects; these by common consent were accorded a second place, the first thought in the minds of all being medical politics and political methods. An exception, however, must be made with regard to one feature of the meeting,—the annual address of the President, Harvey Jewett, M.D., of Canandaigua, on "Some of the Perils of Life from

Preventable Disease," which was a thoughtful, scholarly, philosophical production, fully worthy of the occasion and of the old-time reputation of the Society before which it was delivered.

### A NEW CITY HOSPITAL.

A PETITION to Councils for the removal of the Almshouse at Blockley from its present situation, in order that the present buildings may be used exclusively for hospital purposes, is being generally circulated for signature by physicians in this city. The fact that the present free hospital accommodations are altogether inadequate and entirely unworthy of a city of the size of Philadelphia has been already mentioned in these columns; but it cannot be too often repeated, for day by day it becomes more emphatically evident. It has long been known that the Philadelphia Hospital, from its propinquity to the Almshouse, has become by constant association identified with it in the popular mind; indeed, it is generally regarded as part of it, so that many of the respectable poor prefer to suffer unaided to being associated in the same institution with paupers. If the proposed arrangements can be carried out, it is possible that in the course of a few years Philadelphia may have as fine a city hospital as Boston or Cincinnati, to which sick or injured strangers may be taken, and where the respectable poor may be received without loss of their self-respect.

If the city adopts the proposed plan, it may be able to set aside a small portion of ground for the erection of a Children's Hospital for Contagious Diseases, which is so urgently needed. The fact that in our neighboring city of New York physicians by exerting their influence have recently succeeded in obtaining both a building-site and an appropriation may encourage some of the faint-hearted here.

WE wonder whether all of our readers noticed an advertisement which has appeared several times in our columns, offering a prize of one thousand dollars for the best essay on "The Probability of the Discovery of a Cure of Malignant Disease, and the Line of Study or Experimentation likely to bring Such Cure to Light." Any one covetous of the thousand dollars should send his essay to J. Collins Warren, M.D., 58 Beacon Street, Boston, before the 1st of December, 1883.

### LEADING ARTICLES.

#### DIFFUSE SCLEROSIS OF THE SPINAL CORD AND MEDULLA OBLONGATA—DISEASE OF FRIEDREICH.

IT had been noticed several years since by Friedrich,\* of Heidelberg, that there is a form of ataxia which is distinguished by its appearance in several collateral branches of the same family, and Carré, quoted by Erb,† has reported an instance of a family in which eighteen cases occurred in three generations. It has been ascertained, however, by other clinical observers that this form of disease differs in some important points from ordinary locomotor ataxia, as regards both its symptomatology and its morbid anatomy.

The title of hereditary ataxia, therefore, is not a proper one for this affection, for it may be questioned if in reality it belongs to the category of strictly posterior scleroses, and, even if so, whether it is deserving of the distinctive designation of hereditary, inasmuch as locomotor ataxia itself, according to Charcot and most writers upon the subject, counts inheritance among its principal causes. In place of this term, Féré,‡ a recent writer, suggests the name of "family ataxia," as being more applicable, and scientifically correct. Brousse§ has recommended that it be provisionally replaced by the title Friedrich's disease, which is free from the objection of prejudging its nature until its pathology becomes definitely settled.

\* Ueber Ataxie, mit besonderes Berücksichtigung der hereditären Formen, Virchow's Archiv, Bde. lxxviii., lxx.

† Ziemssen's Cyclopædia, vol. xiii.

‡ Ataxie héréditaire, Le Progrès Médical, No. 45, 1882.

§ De l'Ataxie héréditaire (Maladie de Friedrich), Paris, 1882.

Taking up the consideration of some of the clinical features of this affection, it is found occurring principally as a disease of puberty, although it may appear much earlier or later. Cases have been reported as early as at three years of age; and it may be delayed until twenty. Its appearance in several members of the same family warrants the opinion expressed by Kahler and Pick,\* that it is connected with hereditary weakness or an arrest of development of some of the medullary fasciculi. Like Duchenne's disease, it preponderates in the male sex; out of forty-four cases compared by Féré, twenty-eight were boys and sixteen girls.

The phenomenon first observed, usually, is a notable weakness in the lower extremities, sometimes in one, oftener in both, which is rarely associated with pain or sensory disorder. The uncertainty of the gait, the irresolute step, with legs spread apart like an intoxicated person (Hammond), is characteristic. Later in the disease, walking becomes impossible, though owing more to a real paraplegia than to want of incoordinating power. In this respect the case differs materially from one of ordinary locomotor ataxia. Moreover, the sluggishness and uncertainty of movement observed in the efforts at walking are soon found to be extending to the upper extremities. At the beginning, oscillations are observed in attempts to make delicate movements. Sometimes the initial phenomenon is an attack of hemiplegia. Muscular incoördination, if present, is not increased by closure of the eyes, and only manifests itself, in the beginning at least, in making voluntary movements. Later the muscles of the trunk and head are affected by irregular movements, and the patient nods as if going to sleep in his chair: the nodding is exaggerated, especially when the patient attempts to move his head; it stops if the body and head are supported. After several years the tongue becomes affected by tremor, articulation becomes hesitating, perhaps is rendered difficult by more or less stuttering, which finally makes speech unintelligible; sometimes there is complete lingual paralysis. Nystagmus,† caused by involvement of the eye-muscles or incoördination of them, may likewise occur. A paralysis affecting

all four extremities, more or less complete, often associated with atrophy, may ultimately appear; at the same time there may also occur cramps and temporary contractures. The fulgurant, lancinating pains of locomotor ataxia are wanting in all stages of this affection; sometimes there are pains, but these are erratic and rare, and occur late. Indeed, the troubles of sensibility are among the last to be developed, and are principally manifested by anæsthesia of the lower limbs, never by hyperæsthesia. Electrical changes are also late, but the electro-muscular sensibility apparently disappears before the cutaneous and articular sensibility. Reflex sensibility is not affected, and the sphincters also escape. Pupillary reflex may even be exaggerated. The special senses remain intact; bed-sores do not develop.

Although the intelligence is unimpaired, there are cerebral symptoms which are not without interest. Sudden attacks of vertigo or apoplecticiform seizures have been noticed. The later, in the language of Brousse, are "characterized by a rapid though incomplete loss of consciousness, by complete muscular resolution in the four extremities, general anæsthesia, considerable difficulty in breathing, which is noisy and stertorous, by tumultuous overaction of the heart, very rapid pulse, and notable elevation of temperature."

Whilst the inception of locomotor ataxia is marked by increased salacity, the case is quite different in this form under discussion. In man, impotence is the rule; and in woman menstruation becomes irregular, or there may be dysmenorrhœa.

The course of the disease is slow, but fatally progressive. It may be said to last for a period of from eight to thirty years.

Reviewing the symptoms of the affection and its clinical relations, it is found that although F. Topinard,‡ Carré, Möbries,|| Erb,§ and Grasset¶ consider it to be a form of progressive locomotor ataxia, Charcot and Bourneville\*\* conclude, from instances coming under their observation, that, in some cases at least, the disease approaches nearer to *sclérose en plaques*,—a view which some of the autopsies do not contradict. There is room for the opinion

† De l'Ataxie locomotrice, Paris, 1864.

‡ Ueber die hereditären Nervenkrankheiten (Sammlung Klinischer Vorträge, Volkmann, 1879).

|| Krankheiten des Rückenmarks, Ziemssen, loc. cit.

¶ Traité pratique des Maladies du Système nerveux.

\*\* Bourneville, Nouvelle Etude sur quelques Points de la Sclérose en Plaques, Paris, 1869.

\* Ueber combinirter Systemerkrankungen des Rückenmarks, Archiv für Psych. und Nervenkrank., B. viii.

† Seeligmüller, Hereditäre Ataxie mit Nystagmus, Archiv für Psych. u. Nervenkrank., Bd. x.

that these cases constitute a sort of intermediate class between the two maladies, partaking of the characters of both, but preserving sufficient difference from each to enable them to be distinguished clinically.

The principal points of contrast between these two forms of ataxia are best shown in a tabular form :

FRIEDREICH'S DISEASE.	AGE.	LOCOMOTOR ATAXIA.
Develops ordinarily at puberty, or earlier.		Generally in middle life, or later; though sometimes earlier.
SYMPTOMS.		
(a) Sensory.		
Troubles of sensation entirely wanting in the early stage. No gastric crises. Pains occur exceptionally in later stage; of an aching character, not constant.		Sensory troubles primary and prominent. Gastric crises often marked.—(Charcot.) Fulgurant pains, lancinating, boring, with spots of hyperæsthesia, early and prominent features. Numbness in the soles of the feet early noticed.
Anæsthesia a very late symptom; paraplegic.		Reflex phenomena usually defective, but may be exaggerated; an early feature.
Tendon reflexes not affected, at the beginning at least.		
(b) Motorial.		
Loss of power quite a marked feature early, and becomes more marked later in the disease. It may end in paraplegia. The nodding movements of the trunk and head are distinguishing features also.		Loss of co-ordination without early loss of muscular power, in uncomplicated cases; though ultimately paralysis with wasting may occur.
(c) Special Senses.		
Special senses unimpaired; in later stage may have nystagmus, and trouble of vision may arise from defective movement of ocular muscles.		Diplopia; pains in the eyes are frequent; later, amblyopia and amaurosis appear.
(d) General.		
Speech is affected (stuttering), and may be lost.		Speech not affected.
No bed-sores.		Bed-sores may appear.
Closing the eyes does not cause marked increase in symptoms.		Closing eyes while standing or walking, increases the symptoms of incoördination.

Insular sclerosis, or *sclérose en plaques disséminées*, is also to be separated from the malady under consideration. Although the points of difference may be less well marked than those given above, yet the distinction is always to be made. This, which may appear during childhood, is likewise marked by the absence of sensitive and sensory troubles, by disorder of speech, vertigo, control of the sphincters, and the tremor of muscles; but it is in the character of the trembling that a great difference lies. The rhythmic tremor of multilocal sclerosis is easily distinguished from the mere incertitude of this form of ataxia. The two affections are to be further differentiated by the jerking character of the step in multilocal sclerosis, by its exaggeration of the tendon reflexes, by the contractures (which are exceptional in the other affection), by the frequency of stra-

bismus and diplopia, and especially by the troubles of intellection, which are completely wanting in the disease of Friedreich, the progressively fatal character of which is also in contrast with the irregular intermittent course so characteristic of the former.

The review of the symptoms, therefore, warrants the classification of this disease apart from the other forms of spinal disorder which have been named. Pathological anatomy further justifies this course. According to Féré,\* whose interesting paper has been largely drawn upon in preparing this article, the principal lesions occurring in this malady are the following:

Besides slight lesions of chronic spinal meningitis, there are found different alterations in the spinal cord and medulla. The columns of Goll are much affected; so is the column of Burdach, especially in its external fibres. The sclerosis appears less pronounced in the dorsal region than in the cervical and lumbar portions of the cord; in the latter it is generally most marked. The disease is not, as the rule, confined to the posterior columns, but usually extends to the lateral, and the anterior columns even are said to be often irregularly affected. Brousse asserts that the columns of Clarke may be altered; and in at least one case lacunæ have been found in the gray substance. Schultze has noticed a general diminution in the size of the spinal cord, taken as a whole; this also is true of the medulla oblongata, where the sclerosis is seen extending into the posterior pyramids and may be traced across the floor of the fourth ventricle to the hypoglossal nucleus. The posterior roots are ordinarily atrophied and indurated, and the hypoglossal, brachial, crural, and sciatic nerves are more or less atrophied. Although Friedreich (apparently misled by the autopsy of his first case, in which disease of the posterior columns existed) believed that the disease commences in the posterior columns in the lumbar region, and that the alteration of the medulla spinalis was only consecutive to a posterior meningitis (thus explaining the predominance of the peripheral lesion), it has been since demonstrated that sometimes the disease is most marked elsewhere, for instance, in the vicinity of the canal of the ependyma. In other cases the bulbar lesions are very marked, and, indeed, Hammond

\* Loc. cit.

declares that it is in this region that the disease begins. He is disposed to believe that a cerebellar lesion is present, to which must be attributed the vertigo, the nystagmus, the peculiar staggering gait, and the occipital pain which some of his cases complained of.

The morbid anatomy suggests the relationship of these cases to those of combined postero-lateral sclerosis described by Prevost,\* or the cases of sclerosis of the posterior columns coincident with foyers of degeneration in the spinal cord observed by Westphal† and Schultze;‡ but these cases, which are not identical from an anatomical point of view, differ also clinically from those of Friedreich's disease. The latter is properly a diffuse sclerosis of the spinal cord and medulla oblongata, affecting the different columns of the cord, predominating in the posterior columns, it is true, but invading the others rapidly and progressively. Thus its clinical analogies to multilocular sclerosis are explained by the distribution of its lesions, which likewise accounts for the very marked variation in the symptoms from those belonging to uncomplicated posterior sclerosis, or typical locomotor ataxia.

F. W.

#### FORMATION OF SUGAR IN THE LIVER FROM PEPTONE.

PROF. DR. SEEGEN reports (*Pflüger's Archiv für Phys.*) the following experiments in regard to determining the question of the formation of sugar from peptone in the liver. They were made by—

(a.) Feeding.

(b.) Injection.

(c.) With fresh liver in which the life of the cells was kept up for some time by their mixture in an acid blood.

(a.) The feeding experiments were with dogs of about twelve pounds' weight, to which he gave fifteen to twenty grammes of peptone in three hundred grammes of water, in divided doses, two hours, one hour, and one-half hour before the examination. The animals were killed by cutting the carotids, a piece of liver removed, weighed, and thrown into boiling water,—the whole occupying but one to

two minutes. The piece was boiled and rubbed until the residue showed no trace of sugar; the decoction was treated with alcohol, and the sugar collected from the precipitate.

Earlier experiments with Dr. Kratschmer had fixed the normal quantity of sugar in the liver at 0.45 to 0.55 per cent.

In the present experiments, out of ten dogs only two showed the normal quantity; in the eight remaining the quantity was essentially increased, even to 1 to 1.5 per cent. This shows an increase of 50 to 200 per cent. over the normal quantity.

(b.) To study the effect of direct injection, dogs were narcotized with opium and chloroform, the linea alba incised, and a branch of the portal system found, into which the peptone was directly thrown. After thirty or forty minutes, a piece of the liver was excised, thrown into boiling water, and treated as above. In five experiments one was negative, the other four showed an increase of two to three times the normal quantity of sugar. The blood in the vessels running from the liver contained a marked increase of sugar. The quantity rose in one case to 4 per cent.

(c.) A piece of liver from a freshly-killed dog was mixed in a retort with blood and peptone and subjected to a current of air. In this mass a considerable quantity of sugar was found: so that it may be concluded that peptone is the material from which sugar is built in the liver. These experiments show that the liver is one of the main points for the metamorphosis of peptone, and that sugar is one of the products of this metamorphosis. Still, it is not probable that all the peptone is changed in the liver. R. S. H.

#### CORRESPONDENCE.

##### FAIR PLAY.

MESSRS. EDITORS: In the *Medical Times* of January 27, under the caption "The Adulteration and Substitution of Drugs," etc., are some statements which are liable to be misunderstood, and I trust you will permit a few remarks in reply.

There are a few physicians in Philadelphia who seem to take great delight in finding out the derelictions of some druggist and rushing them into print, commenting on them, and endeavoring to create in a general way a feeling of distrust against the integrity of the

\* Ataxie locomotrice; Sclérose des Cordons postérieurs compliquée d'une Sclérose symétrique des Cordons latéraux (*Archives de Phys. Norm. et Path.*, 1877).

† *Archiv für Psych. und Nervenkrank.*, Bd. ix. H. 2, p. 389.  
‡ Ueber combinirte Strang-Degenerationen in der Medulla spinalis (*Virchow's Archiv*, Bd. lxxix.).

pharmacists of this city as a class. It would be difficult in these days to find all the members of any one class in the community, let them be of the medical profession, or pharmacists, tradespeople, mechanics, or whatever you choose, entirely perfect and possessed of such remarkable traits of character that it would be impossible for them to do wrong.

The paper referred to seems to lay stress on information obtained by a relief-clerk who visits various stores as an assistant, when occasion requires, and he reports the habit in these stores of substitution, etc. The article states that "the Trade Association of Philadelphia Druggists made a denial of the charges." This assertion conveys an incorrect impression of the facts. The newspaper articles made charges against the "Druggists of Philadelphia" (as a class); this the Trade Association did deny. But they did not deny that it was possible that one here or there might be picked out who might be guilty of wrong-doing, and at once appointed a committee to investigate the matter, giving them power to prosecute the offenders if they thought it proper. They found two cases, but the evidence was of such an uncertain character that the solicitor of the Association thought it not expedient to push the matter.

I agree with the writer of the article that no honest druggist (and I am glad to know there are many such) will fear a decoy prescription; at the same time, I don't think it the most commendable way to get information. The abuses the writer includes under three heads,—viz., inferiority, deficiency in quantity or quality, substitution. That these abuses exist in some localities it is with regret acknowledged; but what is the remedy obviously best in such cases? Let such people severely alone, and have your dealings at other places where you feel you will be honestly treated.

Allusion is made to the deficient quantity and great variation in "ready-made pills." If the physician would write his recipe for such constituents and order it to be compounded by an apothecary in whom he had confidence, I do not think this complaint would be so common. But the prescription comes ordering "Smith's Gelatin-Coated Pills" or "Jones's Sugar-Coated Pills," etc., and the pharmacist is compelled to keep a large stock or variety of these ready-made preparations, made in large quantities he knows not by whom or how!

It is a growing mistake that the medical profession do not encourage the retail pharmacist more and give him opportunities to employ his skill; not make of him a dealer in commodities already made, so that all he has to do is to hand them out, like a merchant his yard of cloth or pound of sugar.

If the writer of the article will make known to the Trade Association of Philadelphia Druggists the names of the proprietors of the stores

where it is the rule to practise substitution in compounding prescriptions, or where prescriptions ordering quinine are compounded and it is *known* quinine has never been in the store, or the two stores where quinia and cinchonidia in equal parts are always used, or the store where a prescription was compounded ordering four drachms of quinia and none was put in, he will be doing a substantial benefit to honest apothecaries and the community. I heartily agree with him that no necessity exists for encouraging the wholesale manufacture of pills, which may lie for months and perhaps years before they are used: let them be made as needed by a responsible pharmacist, and the physician will be less disappointed in the effect.

It is a mistake to call a druggist "a first-class druggist" who would make suppositories of wax when butter of cacao was ordered. He is not deserving of such a title.

I trust that the following sentiments expressed in the discussion of the paper will be widely spread and duly emphasized,—viz.: "And he was, in general, opposed to the plan of using ready-made prescriptions. He thought that each case should be prescribed for specially, and each case might require a variation of remedies which the doctor only knows;" also "he thought that it is the duty of the physician to inquire into the standing and ability of apothecaries."

In the paragraph following, "the several serious and indefensible substitutions made by well-known and respectable pharmacists" should be made known to the Trade Association, for the purpose of preventing a repetition of such practices.

The extravagant terms used by the gentleman in referring to the custom of pharmacists renewing prescriptions are quite out of place, and not warranted by the circumstances. In an interview with this same gentleman he was shown that the apothecary had no option in the matter,—that wherever a case of the kind (as far as the writer's knowledge goes) has been decided by a court of justice the ownership of the prescription is with the patient, to do with it as he pleases, and I would like the gentleman to show a case decided differently. If a physician, for reasons of his own, desires that the prescription should not be repeated, and so instructs the patient when he hands it to him, and *writes* on the face of the prescription, "Not to be repeated," any pharmacist who would disregard such *written* instruction would be as much at fault as if he were to put paregoric in when laudanum was ordered. It is a part of the instructions of the doctor to the pharmacist. A printed heading "not to be renewed," and without an understanding with the patient to that effect, I do not consider binding.

To sum up this matter in a few words, let physicians and pharmacists work more in harmony with each other, and, if there are any

Feb. 24, 1883]

Medical Times Advertiser.

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A BILL IN EQUITY HAS BEEN FILED BY MR. JOHANN HOFF IN THE CIRCUIT COURT OF THE UNITED STATES, for the Southern District of New York, AGAINST TARRANT & CO., of that city, to punish them for their violation of Mr. Johann Hoff's rights in the past, and to restrain them from such conduct hereafter.

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We desire to call the attention of physicians and others to the following points:

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Particular attention is called to our GRANULES of MORPHINE, STRYCHNINE, ARSENIOUS ACID, and other powerful remedies, which are prescribed in minute doses. The desirability of having these medicines in this shape, accurately weighed and ready for administering, has long been recognized.

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Messrs. ROBERT SHOEMAKER & CO., of Philadelphia, keep a full line of these Pills, and will supply them upon the most favorable terms.

black sheep in either flock, let them alone, avoid them, and they will soon find it to their advantage to leave off their old ways and follow after that which is good, truthful, noble, and elevating, and so gain the respect of their friends and confrères.

Very truly yours,

AND. W. BLAIR.

#### ATROPIA-POISONING—MORPHIA AS ANTIDOTE.

**M**R. EDITOR,—I take the liberty of calling your attention to a case of atropine-poisoning occurring in the person of a physician near Shannon, Mississippi, and treated by Dr. Carothers of that place.

He had swallowed by mistake on an empty stomach one grain by weight of atropine. He was not aware of his mistake until symptoms of atropine-poisoning occurred, consisting of dilated pupils, dry and hot skin, dry throat, and drawing and incoherent speech, followed by convulsions. Dr. Carothers injected hypodermically sixteen to eighteen grains of morphia, and under its influence the patient recovered. There were no symptoms of narcotism from the use of the morphia, which would seem to show that the antagonism between these drugs is mutual. The patient not having been addicted to the opium habit, the amount of morphia injected would have produced death had there been no antagonism by the atropine. The limited protective influence of atropine in opium-poisoning is clearly established: do not the foregoing facts tend to establish the converse?

Yours, etc.,

J. B. Cox, M.D.

#### NOTES FROM SPECIAL CORRESPONDENTS.

##### CINCINNATI.

**T**HE Academy of Medicine recently appointed a committee to confer with a committee from the College of Pharmacy in reference to deciding when the new Pharmacopœia should come into general use. The joint committee reported that druggists shall fill all prescriptions in accordance with the U. S. P. of 1870, unless otherwise specially designated in the prescription, until July 1, 1883, after which the preparations of the new Pharmacopœia are to be used unless otherwise ordered. Of course this applies only to the Cincinnati physicians and pharmacists.

Dr. Clara M. Ellsbury, of this city, and Dr. Juliet M. Thorpe, of Covington, Kentucky, have this winter opened a dispensary for the treatment of the diseases of women and children. It is modelled somewhat after the out-

door department of the New England Hospital, where Dr. Ellsbury received her preliminary practical training. These young ladies are both graduates of regular medical colleges, the one from Ann Arbor, Michigan, and the other from the Woman's Medical, of Philadelphia, and are both members of the Academy of Medicine. They are energetic workers in their chosen profession, and are achieving well-deserved success.

The Academy of Medicine has now three female members, the third being Dr. Julia Carpenter, who was the first lady member. Aside from a number of nondescript practitioners, these are the only female physicians here.

In my last letter I informed your readers of the incongruous character of the Board of Health. Since then the members, with one exception, have resigned. There is a bill now before our State Legislature to abolish the present Board, and to empower the judges of the Superior Court to employ a Health Commissioner at a yearly salary of \$3600, he to have the power of selecting his own assistants at a salary of \$300 per year each.

Scarlet fever has been raging with unusual severity during the fall and winter. In some quarters it is characterized by a high degree of malignity,—some weeks the mortality from this disease being greater than from any other single affection.

There is a great deal of sickness here now, which will, doubtless, be much increased on the subsidence of the high water. Thousands of houses are partly or wholly under water, and the dwellers in the inundated districts are already beginning to suffer from the dampness of their dwellings.

February 12, 1883.

##### CHICAGO.

**O**UR Health Commissioner is now in your city, seeking information that may be utilized in the construction of a morgue. We have been practically without that very necessary structure, the building used for the purpose being a wretched affair, infested by swarms of rats, which in some instances have mutilated bodies beyond recognition.

The State Board of Health has lately passed a rule upon the question of examination for matriculation in all our medical schools,—a sort of protective tariff upon home production. That this rule can result in little good with the present composition of the Board there can scarcely be a doubt. Some of the schools have during several years past required matriculants to pass theoretically an examination upon certain designated branches. Practically the examination has amounted to nothing, and there is no reason why the present action of the State Board should change it.

The affairs of our county hospital have at last received long-needed attention. The last grand jury, being respectable, did its work respectably. It makes charges of wilful neglect or careless management, if not of inhumanity which is actually and morally criminal; of general looseness and lack of system,—cash belonging to patients finding its way into devious paths, etc. The jury suggests the organization of a Board of Supervision for all the city charities; and by having the members appointed by the judges of the courts or by the governor,—preferably the former,—there would be less of the bad (political) element in the composition.

The tenement-house question is one forcing itself upon the attention of the public. The health and well-being of a large proportion of the working-classes of this city must depend upon some prompt action; as it is now, more than half of their hard earnings is required to pay an exorbitant rent for the most wretched, crowded, and filthy quarters to be found in any city.

Our new St. Luke's Hospital is to be of brick, and will be located upon our most public driveway,—a location not without its objections. Though the winter has been the most rigorous experienced for many years, the health of the city has been fairly good.

Our State Hospitals for the Insane are issuing the usual biennial report. Most of them give a very extended space to the discussion of buildings, grounds, and improvements; but, with the exception of one report, which treats of efforts to do away with mechanical restraint, there is nothing of value or interest as regards the class of diseases peculiar to these institutions.

February 14, 1883.

## PROCEEDINGS OF SOCIETIES.

### NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, FEBRUARY 1, 1883.

FORDYCE BARKER, M.D., LL.D., President,  
in the chair.

**M**R. F. SEYMOUR HADEN, of London, England, was invited to take a seat on the platform.

After the reading of the minutes of the previous meeting, and the reports of committees, the Vice-President, Dr. R. F. WEIR, took the chair, and the PRESIDENT delivered his annual address.

In his opening remarks the PRESIDENT said, "I cannot commence my remarks in the usual form by thanking you for again placing me in this position, for I had earnestly desired that the responsibility and labor involved in the effort to discharge the duties of the office which I have had the honor of holding by your kind partiality might end with my

second term of service. At a former meeting of the Academy I stated my reasons for declining to be a candidate for renomination, which I hoped would be as conclusive in influencing the action of the Academy as they were in my own mind. . . .

"But the general sentiment has been expressed to me so unequivocally, not only by individual solicitations by those who, by their work, have shown the greatest interest in the future of the Academy, but by the unanimity of your suffrages, that I feel the duty is plain for me to sacrifice personal feelings, and to yield personal convictions to the expressed judgment of the Academy. . . .

"I wish still further to relieve my mind by avowing not only my warm appreciation of this recent expression of your confidence, but my profound thanks for the aid and constant support which I have received, not only from the office-bearers, but from the Fellows of the Academy as a body and as individuals. . . . I think the character and high purposes of the Academy have been gloriously illustrated by the fact that in its past sixty-four sessions all have worked together most harmoniously and not the slightest jar or irritation has occurred to disturb friendly personal relations. . . .

"The past and future of the New York Academy of Medicine seems to me the most appropriate theme when precedent has made it the duty of the chair to take up the time which is usually occupied in a more important and profitable way in scientific work.

"Of the one hundred and eighteen leading physicians and surgeons of this city who, thirty-six years ago, had the happy conception to unite in organizing this Academy of Medicine, there are now living but twenty-four." Some of these, who had occupied positions of special trust in the Academy, were then mentioned, among whom were Drs. John G. Adams, Samuel T. Hubbard, Willard Parker, James Anderson, A. C. Post, and S. S. Purple.

The library of the Academy now contained over nineteen thousand volumes and between five and six thousand pamphlets, and it was daily increasing by the generous donations of its friends. The circulating department had been placed on a most efficient basis, and the journal department was being kept up to its former high standard of excellence and completeness.

Passing to the *personnel* of the Academy, the Statistical Secretary had reported during the past four years the death of thirty-five of the Fellows, among whom were Freeman J. Bumstead, James R. Wood, John W. Draper, George M. Beard, and others who were well known in all parts of the world where there is a medical literature.

During the past four years the Academy had elected and received one hundred and forty-seven new resident Fellows.

"I think the Academy has every reason to be satisfied with the amount of scientific work which has been done during this time, as sixty-six papers of unusual merit and importance have been read, on subjects pertaining to pathology, general medicine and surgery, therapeutics, and the various special subjects of obstetrics, gynaecology, dermatology, laryngology, otology, and ophthalmology, and the reading of these papers has been followed by able discussions, which have attracted notice and been largely reprinted both in American and in European journals. I can repeat what I have said on a former occasion,—that these discussions have been very valuable, because they have called out our ablest and best men, known to be experts in the special subjects of the papers read, and they have given the results of their careful study and large experience. . . . I hold it to be one of the great missions of this Academy to bring out and develop the young men by its library and its scientific work, who are to take care of its interests and give the stamp of character to the Academy and the medical profession of this city in the future. . . .

"The mental activity of the profession in this city has been wonderfully developed, and its contributions to our literature have wonderfully increased, since the organization of the Academy. The number of medical works by New York authors in the fifty years from 1800 to 1850 was one hundred and nine. In the ten years from 1850 to 1860, New York writers published sixty-five medical works; from 1860 to 1870 the number was sixty-nine, and from 1870 to 1880 the number is one hundred and two, the whole number in the last thirty years being two hundred and thirty-six. To this it should be added that New York writers have also, in this period of thirty years, contributed, according to the most accurate estimates that I can obtain, at least twenty-five thousand pages to the medical periodical literature of the country."

We have no cause for anxiety in regard to the future of the Academy as it relates to scientific work. The one thing needed, in order that its full mission might be accomplished, was that it should be placed on such a financial basis as to secure it the means of doing all its important work. The medical profession had contributed liberally of its means towards this end. "No city has a greater accumulation of individual wealth than New York. None has greater liberality when properly appealed to and when the intelligence and judgment are convinced of the justice and necessity of the appeal. This has been amply shown in its liberal provision of hospital accommodation for the sick poor, and in numerous other directions. But it has done little for the profession on which it relies for the preservation of their health and lives; and I am convinced that this is simply because the necessity and motives for giving such aid have

never been laid before them. Their liberality has, consequently, never taken this direction. In the Continental countries of Europe such an organization as ours would be effectively assisted by appropriation from the state. In Great Britain it would be stimulated to active work and aided by liberal contributions from private individuals." Reference was made to notable examples of this kind.

"In conclusion, I beg to express the hope that all of us feel that our duty to the Academy is a duty that we owe to our profession, that its prosperity and usefulness and its good and active work may continue with progressive advance, and that the motto of our loving-cup may always be a controlling sentiment with us: 'May peace and love be multiplied unto us!'"

After some remarks appropriate to the occasion, offered by Drs. Detmold, Post, Mr. Haden, of London, and Dr. Weir, the Vice-President, the latter then being in the chair, the following resolutions, offered by Dr. W. M. Carpenter, were seconded and unanimously adopted:

"Whereas, To those of us who have been accustomed to attend the meetings of this organization, the concise and comprehensive résumé of the history and present condition of the New York Academy of Medicine, to which we have listened, has passed before us like a pleasing and edifying panorama:

"Be it *Resolved*, That we hereby express our hearty appreciation of the fidelity and untiring industry of our President for the welfare of this institution.

"*Resolved*, That we are ever ready to respond to his call, and indulge the hope that what we have received from our most worthy founders, whether it be physical or scientific, constructed of brick and stone, we shall be able to transmit constructed of solid marble."

The Academy then adjourned.

#### PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the Society, January 17, 1883.

#### DISCUSSION ON THE EFFECTS OF IRRITATING THE OPTIC NERVE.

Dr. Shakespeare remarked that it was important to know how many of the patients examined had the optic nerve in such condition of disease as to render it incapable, or very slow, to transmit impressions. Positive results ought to outweigh any number of negative results, and many of the diseases requiring enucleation were of such character as to destroy, or at least greatly impair, the function of the nerve. Moreover, the fibres of this nerve suffer secondary atrophy, like other nerves, after very prolonged interruption of

conduction. Another point was that the optic nerve is surrounded by sensitive fibres which convey the sensation of intense pain, which would divert the mind from other sensations, such as those of light. A number of cases, similar to those reported here to-night, have from time to time appeared in the ophthalmological and pathological journals. He recollected, among others, six cases reported by Schmidt-Rimpler, in two of which positive impressions of light were obtained, but in the other four only negative results. Dr. Shakespear considered that an abundance of positive proof exists that a sensation of light is usually experienced when an optic nerve in good condition is irritated.

Dr. W. R. D. Blackwood remarked that he had experimented with electricity on the optic nerve of both sound and diseased eyes to learn what impression, if any, was made by mechanical pressure or irritation. He had in one case, where the right eye was enucleated and the other was useless from dense cataract, found that GALVANIC currents of low *tension* but great *quantity* evidently produced the sense of light, and phosphenes, ordinarily gotten by pressure on the ball in a dark room, and this in both eyes. FARADIC currents of much higher *tension* but of little *quantity* gave almost negative results; yet, singularly, STATIC currents of still less *quantity* but of extreme *tension* gave very pronounced results. In the latter trials the electrodes were pressed firmly on the surface, so that the spark consequent on disruptive discharge could not occur, and the flash seen was therefore not the light of the spark itself (which was not produced), but must have been the effect of nerve-stimulus. The speaker was unfamiliar with ophthalmic matters, except in a general way, but he gave the above for what it was worth, and was himself inclined to think that irritation of the optic nerve *did* (at least in some instances) produce the sensation of light, even in cases after enucleation, provided the nerve was not atrophied beyond the optic chiasm.

Dr. Eskridge desired to know whether the experimenter had pressed upon the ball of the eye before enucleating, in order to ascertain whether the optic nerve to be experimented upon was capable of conveying impressions of light.

Dr. Landesberg, in closing the discussion, said that all physiological works contained the dogmatic statement that when the optic nerve is divided a sensation of light is produced, and it was with a view to test the accuracy of this that he made the experiments. It appeared that the assertion rested in part upon the fact that a French surgeon, in operating for cataract by reclinatio, pushed the needle too far and pricked the optic nerve, and the patient experienced a luminous sensation; also upon the observation of Magendie and Dieffenbach, that mechanical compression of the nerve gives rise to a sensation of

light only. His own experiments, however, had shown that such result was not always produced. Schmidt-Rimpler, Hirschberg, Rothmund, Szokalski, had also had negative results. In the first case reported to-night the optic nerve may have been atrophied, but Dr. Landesberg did not draw any conclusion from this one. In the seventeen cases which gave the material for the investigations, the nerve was in condition to convey the stimulus to the brain. He considered it highly doubtful whether a patient undergoing such a painful operation as enucleation, without anæsthetics, would be able to tell exactly what his sensations were during division of the optic nerve. In answer to a question by Dr. Mills, he said that the phosphenes were caused by the mechanical irritation of the retina.

#### REMARKABLE CASE OF DEFECTIVE DEVELOPMENT.

Dr. Atkinson brought before the Society a man, aged 40 years, who presented the following peculiarities. He has never had teeth, nor any distinct growth of hair on the scalp, except the downy hairs such as are seen in early infancy. He is also destitute of the sense of smell, and almost of that of taste. His skin appears to be unprovided with sweat-glands, as he never perspires, and when working actively he is obliged to wet his clothes in order to moderate the body-heat. He can sleep in these wet clothes in a damp cellar without catching cold. His jaws present the appearance seen in persons who have lost all their teeth. Hair is present in the axillary and pubic regions, but the downy hair which is usually seen over the skin at large is wanting, except on the scalp. His maternal grandmother and uncle were similarly defective, and the present patient was among the younger of twenty-one children. He was a man of very good health, having never been seriously sick, and, although not able to chew his food in the ordinary manner, he never suffered from dyspepsia. The secretion of urine was unusually abundant. He was married, and had eight children, among whom were two girls, both of whom lacked a number of teeth.

#### DISCUSSION ON THE FUNCTION OF THE CHORDA TYMPANI.

Dr. Mills said that some of the clinical facts observed by him would indicate the correctness of Dr. Burnett's views. He had seen cases in which disease of the pons-medulla region was supposed to be present, with which were associated defects of speech that could not be well understood except on some such theory. A case of this kind was recently at the University Hospital. Another was a case of double facial paralysis, in which the patient, after losing her hearing in both ears, had also very quickly lost the power of speech. He wished, however, to know how to explain

the cases in which peripheral facial paralysis existed, with disturbance of the sense of taste, and in which the disease can be located along the trunk of the facial nerve, where the chorda tympani nerve is supposed to be in contact with the facial.

Dr. Bruen referred to an instance he had recently witnessed in which seventy-five grains of quinine were taken inside of twelve hours to break up an obstinate malaria, and on the next day eighty grains additional, before the physiological effect was produced. Total deafness, with ringing in the ears, and with some interference in speech, ensued. The difficulty in speech consisted in a thickness of articulation, and inability to pronounce distinctly. Sounds were uttered in a stuttering manner. He had never seen moderate doses produce such effects upon the movements of the tongue, and the case had occurred to him as bearing upon Dr. Burnett's paper. In reply to a question, Dr. Bruen said that he could not speak definitely as to whether the sensation of taste was affected.

Dr. Burnett, in closing the discussion, said that Dr. Bruen's case was an interesting one, and seemed to tend to confirm the view that the chorda tympani nerve is one of motion rather than of taste. It had been asserted by some writers that suppurative disease in the tympanic cavity is attended with disturbed sense of taste, but of this he had never been thoroughly satisfied. The clinical opportunities for verifying the statement were infrequent. Some filaments of the chorda tympani might pass to the sublingual region, and thus take part in the sensation of taste, but if Sapolini's theory is correct, that most of the fibres go to the muscles of the tongue, the nerve must be motor. Dr. Bruen's case was in harmony with this view. If quinine produced congestion of the origin of the auditory nerve, it would congest also the origin of the chorda tympani from contiguity; if, on the other hand, it congested the tympanic cavity, the chorda tympani could be affected by such congestion in its passage through the tympanum. In regard to the interpretation to be put upon defects of speech in facial paralysis, as in the case men-

tioned by Dr. Mills, it would be necessary to know whether such defect depended on paralysis of the muscles of the tongue or of the lips and cheeks, as one cause might be quite independent of the other, if the chorda tympani is an independent nerve.

#### ATOMIZERS.

Dr. W. R. D. Blackwood exhibited a set of



three atomizers as made by Mr. William Snowden, of No. 7 South Eleventh Street, in this city. The perfect steadiness of the jet, its volume and firmness of spray, and the distance to which it was projected, were shown by the speaker, who commended the instrument highly in the treatment of post-nasal catarrh, in laryngeal difficulties, and for all aural and nasal disorders. The finish, especially of the rubber, and the simplicity yet convenience

in operating it, rendered its name appropriate,—"the perfect atomizer." The jet was adjustable upward, downward, and forward, and a perfectly *continuous* spray was obtained with little effort by means of the elasticity of the subsidiary bulb, which could be distended to the point indicated by the dotted line, overdistention being prevented by the netting, which held it and averted rupture. No atomizer yet produced approached those exhibited in practical adaptability to many uses; and an important item was the moderate cost of the instrument.

## REVIEWS AND BOOK NOTICES.

A DICTIONARY OF MEDICINE, INCLUDING GENERAL PATHOLOGY, GENERAL THERAPEUTICS, HYGIENE, AND THE DISEASES PECULIAR TO WOMEN AND CHILDREN. Edited by RICHARD QUAIN, M.D.

More than one hundred and fifty medical writers, many of them men of the highest eminence, nearly all of them natives of the British Islands, have deposited their sacks of wheat in this overflowing granary of medical lore. There are over eighteen hundred double-column pages of fine, close print, and it is evidently hopeless to attempt any proper review or even notice of such a book in our brief columns. It is a condensed library: moreover, the articles vary in style, force, power, and every scientific and literary quality,—a heterogeneous family of children, uniformed and drilled by careful editing into sufficient accord, and yet preserving those individual characteristics born with them.

To physicians desiring a book of such character we strongly commend the present volume, whose sale will probably be largest outside of the profession, with the resultant of mixed good and evil that follows a little medical acquirement by the laity.

## GLEANINGS FROM EXCHANGES.

DEVELOPMENT OF LIVING GERMS IN WATER.—At a recent meeting of the Manchester Literary and Philosophical Society, Dr. R. Angus Smith contributed some interesting facts on water-analysis. Dr. Smith stated that he had learned from Dr. Koch, of Berlin, the use of gelatin for preserving the indications of organic vitality. About two and a half per cent. of gelatin well heated in a little water is mixed with the water to be tested,—the mixture forming a transparent mass, which is not movable like the water itself. When soluble or unobserved matter develops from the organic matter of the waters tested and makes itself visible in a solid and insoluble form, it does not fall to the bottom, but

each active point shows around it the sphere of its activity. The gelatin preserves the whole action, so far as the more striking results are concerned, and keeps a record for a time both of the quality and of the intensity of life in the liquid. Dr. Smith speaks of the more striking effects, which are clear and abundant, every little centre of life making itself apparent to the eye, and sometimes expanding its development to reach both sides of the tube. It seems to him now essential that all chemical examination of water should be supplemented by an inquiry, like this of Dr. Koch's, into the comparative activity of the living organisms. When a centre acts, it makes around it a sphere in some waters; and the sphere, which has the appearance of a thin vesicle, is filled with liquid. These spheres form in a day or two, according to the water, and at the bottom is a white mass, chiefly containing active bacteria. The liquid filling the spheres may be taken out by a pipette and examined, as also the bacteria which lie at the bottom. Dr. Smith has not yet examined a sufficient number of specimens of water to give general rules, but hopes to do so. His observations have been confined chiefly to the Manchester district, hill-water, impure brook- and pond-water, Mersey, Irwell, and Medlock water, and canal-water. In certain specimens of Manchester water the spheres appear on some days very few; on other days the amount is enormous and heavy, the whole of the tube in which the experiment is made being filled with spheres. At such times the water is highly impure and complained of by the public. The globules do not show themselves in strong sewer-water, but the whole mass becomes turbid, and the surface of the gelatin becomes liquid and full of life. This liquid condition gradually increases, until the whole is reached. Dr. Smith says that, when the tests are sufficiently developed, chemists must prepare for a new condition of things.—*British Medical Journal*.

TETANUS (?) CURED BY GELSEMIUM.—The report of a case under the care of Dr. John B. Read, of Tuscaloosa, Alabama, appears in the *British Medical Journal*, in which tetanic convulsions in a strong, healthy mulatto woman, 20 years of age, were stated to have been caused by a wound in the foot received but two days before. The wound was laid open and packed with morphia, no foreign body having been detected. Fluid extract of gelsemium sempervirens was given in doses of twenty minims every second hour, alternating with the same quantity of liquor potassæ at the same intervals. The dose of gelsemium was increased to forty drops every two hours on the following day. By the end of the fourth day the rigidity of the jaws was entirely relieved, and the general spasms recurred with less frequency. The remedy was

now reduced to the former dose, at which it was continued to convalescence. It is said that the extract was fresh from the laboratory of Tilden & Co., and was given for a week in amounts closely approximating half an ounce to an ounce in twenty-four hours. It produced no other sensible effect than that of controlling the spasms and arresting the disease. Dr. Read says, "There was no dizziness, no dimness of sight, no double vision, and no prostration of strength, as I have seen in other patients with other diseases from much smaller doses of the same preparation." [If the patient really swallowed these large doses of an active preparation without producing the ordinary physiological effects, the case is worthy of record, whether she had tetanus or not. It is not, however, reported for the purpose of fixing the ordinary dose of gelsemium, the fluid extracts of which may vary greatly in their effects.]

**ALTERATIONS OF THE SPINAL CORD IN POISONING BY PHOSPHORUS.**—The results of the researches of Dr. Danillo (*Gazette Méd. de Paris*, 1882) on this subject are as follows. 1. The alterations of the spinal cord in phosphorus-poisoning belong to the class of myelitis, either central or diffused. 2. In cases of acute poisoning, the central nervous system contains deposits of pigment of hæmatio origin. This has, heretofore, not been noted. 3. Large doses of phosphorus give rise to a central myelitis along the whole length of the cord, with the formation of extravasation and pigment. Smaller and repeated doses give rise to a diffused myelitis, affecting the gray and the white matter. 4. Phosphorus thus presents us with a powerful means by whose aid we may excite, at will, an inflammatory irritation in the spinal cord, either localized in the gray matter, or diffused. 5. A certain number of morbid nervous phenomena, observed during life, are to be attributed to the effects of one or the other of these two kinds of myelitis.

## MISCELLANY.

**DEATH OF PROF. RAND.**—Benjamin Howard Rand, M.D., formerly Professor of Chemistry in the Jefferson Medical College, and for several years Dean of the Faculty, died on February 14 at his residence on Summer Street, in this city. He was fifty-six years of age, and was born in this city. He was graduated from the Jefferson Medical College in 1848, and two years later was elected Professor of Chemistry of the Franklin Institute. From 1852 to 1864 he was Secretary of the Academy of Natural Sciences, and for several years he occupied the chair of chemistry in the Philadelphia High School. He was subsequently elected Professor of Chemistry in the Pennsylvania Medical College at its foundation, a position which

he retained until the school ceased to exist in 1861. He accepted the chair of chemistry in Jefferson Medical College in 1864, from which ill health forced him to retire in 1877. He was elected a Fellow of the Philadelphia College of Physicians in 1853, and a member of the American Philosophical Society in 1868, and was also a member of the American Medical Association. He was the author of several elementary works on chemistry.

Dr. Rand was liked by students, as his lectures were always clear, practical, and instructive. In his course at Jefferson Medical College he kept the teaching of the medical relations of his subject in the foreground; and therefore those who had the privilege of attending his lectures were distinguished by their acquaintance with applied chemistry in practical medicine rather than by their familiarity with chemistry in its scientific aspect. For several sessions before resigning his position, his state of health was such as to interfere greatly with his teaching, and his later students heard him at a great disadvantage. He had several attacks of pneumonia, which he attributed originally to accidentally inhaling arseniuretted hydrogen during a medico-legal investigation. Dr. Rand was uniformly agreeable in his manners, had a high sense of honor, was sociable in his feelings, and withal a man of strong convictions and possibly some prejudices. He was punctual in his engagements, punctilious in the performance of promises, and faithful to his friends. As Dean of the College he was kind and obliging to the students, always sympathizing with their troubles and ready to listen and to advise. After he severed his connection with the school he lived in retirement, visited only by a few of his friends that had formerly known him, and by whom he will not be soon forgotten.

**A PROPOSED ACT TO REGULATE DISSECTING.**—A bill to constitute a Board for the distribution of unclaimed human bodies among the different institutions entitled to dissecting material has just been brought before the Legislature by a committee of physicians from the several anatomical schools and colleges in this city. The Board is to consist of the professors of anatomy, the professors of surgery, the demonstrators of anatomy, and the demonstrators of surgery of the medical and dental schools and colleges of this Commonwealth which are now or may hereafter become incorporated, together with one representative from each of the unincorporated schools of anatomy or practical surgery within this Commonwealth in which there are, or from time to time at the time of the appointment of such representatives shall be, not less than twenty-five scholars.

Under the proposed bill, all public officers having charge or control over dead human bodies are required to notify the Board of that

fact, and all colleges, before receiving such bodies, must first file a one-thousand-dollar bond conditioned that cadavers are to be used only for the promotion of medical science within the State. For trafficking in bodies, or carrying them outside of the State, the offender shall be deemed guilty of a misdemeanor, and be liable to a two-hundred-dollar fine and a year's imprisonment.

**PENNSYLVANIA HOSPITAL.—COMPLIMENTARY DINNER TO MR. WM. G. MALIN.**—The resignation of the steward of the Pennsylvania Hospital, Mr. Wm. G. Malin, after a period of service to the institution extending over fifty-nine years, was made the occasion of a complimentary dinner to him on the 21st instant by the medical officers, past and present, of the hospital. The dinner was given in the medical library on the second floor of the hospital, covers being laid for ninety guests. The board of managers of the hospital was present, as well as the medical staff and some invited guests. There was an unexpectedly large gathering of former resident physicians. The event was altogether one of great interest, and was thoroughly enjoyed. The large and distinguished attendance upon such an occasion testified to the respect and high esteem in which Mr. Malin was held by those who had been brought in contact with him in the discharge of their daily duties. A pleasant feature of the occasion was the presentation by the assembled guests of a portrait in oil of Mr. Malin to the trustees of the hospital. A portrait of Dr. John Conrad, contributed by some of the members of the medical staff, was also formally presented.

**THE PHILADELPHIA POLYCLINIC AND POST-GRADUATE SCHOOL** has secured a building for the institution, located opposite the College of Physicians, on the southeast corner of Thirteenth and Locust Streets. Alterations will be made during the spring and summer so as to open early in the fall.

**DR. ROBERT H. ALISON** has been appointed Health Officer of the port of Philadelphia by Governor Pattison, and unanimously confirmed by the Senate.

**MARK TWAIN** says there is something very fascinating about science, it gives you such wholesale returns of conjecture for such trifling investments of fact.

## NOTES AND QUERIES.

### NOTICE.

**AN ARMY MEDICAL BOARD** has been ordered to assemble at the Army Building, corner of Houston and Greene Streets, New York City, New York, March 1, 1883, for the examination of such persons as may be properly invited to present themselves before it as candidates for appointment in the Medical Corps of the Army, and will probably continue in session about three months.

All candidates for appointment in the Medical Corps must apply to the Secretary of War for an invitation to appear for examination. The application must be in the handwriting of the applicant, must state date and place of his birth and place and State of which he is a permanent resident, and must be accompanied by certificates based on personal acquaintance from at least two persons of repute as to citizenship, character, and moral habits. Testimonials as to professional standing from professors of the medical college at which they graduated should also accompany the application, if they can be obtained. The candidate must be between 21 and 28 years of age (without any exceptions), and a graduate of a regular medical college, evidence of which—his diploma—must be submitted to the Board.

Further information regarding these examinations and the nature thereof can be obtained by addressing the Surgeon-General, U. S. Army, Washington, D.C.

## OFFICIAL LIST

### OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM FEBRUARY 3, 1883, TO FEBRUARY 17, 1883.

**NEWTON, R. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.**—Is relieved from duty at Fort Cummings, N.M., and will proceed to Fort Sill, I.T., and report to the commanding officer for duty. S. O. 28, Department of the Missouri, February 5, 1883.

**BROWN, JOSEPH B., LIEUTENANT-COLONEL AND SURGEON.**—Detailed as member of board for examination of assistant-surgeons for promotion and candidates for admission into the Medical Corps U. S. Army, to convene at New York City on March 1, 1883. Paragraph 1, S. O. 35, A. G. O., February 10, 1883.

**CLEMENTS, BENNETT A., MAJOR AND SURGEON.**—Detailed as member of board for examination of assistant-surgeons for promotion and candidates for admission into the Medical Corps U. S. Army, to convene at New York City on March 1, 1883. Paragraph 1, S. O. 35, A. G. O., February 10, 1883.

**JANEWAY, JOHN H., MAJOR AND SURGEON.**—Detailed as member of board for examination of assistant-surgeons for promotion and candidates for admission into the Medical Corps U. S. Army, to convene at New York City on March 1, 1883. Paragraph 1, S. O. 35, A. G. O., February 10, 1883.

**WOODWARD, J. J., MAJOR AND SURGEON.**—The extension of leave of absence on account of sickness, granted October 6, 1882, is further extended six months on account of sickness. Paragraph 9, S. O. 34, A. G. O., February 9, 1883.

**TOWN, FRANCIS L., MAJOR AND SURGEON.**—Is relieved from duty at Fort Walla Walla, and will report to the commanding officer, Vancouver Barracks, for duty as post-surgeon. S. O. 7, Department of the Columbia, January 27, 1883.

**DE LOFFRE, AUGUSTUS A., CAPTAIN AND ASSISTANT-SURGEON.**—Will be relieved from duty in the Department of the Missouri, and report in person to the commanding general, Department of the East, for assignment to duty. Paragraph 3, S. O. 26, A. G. O., January 31, 1883.

**DE LOFFRE, AUGUSTUS A., CAPTAIN AND ASSISTANT-SURGEON.**—Relieved from further duty in this department. S. O. 28, Department of the Missouri, February 5, 1883.

**ELBREY, FREDERICK W., CAPTAIN AND ASSISTANT-SURGEON.**—The leave of absence on surgeon's certificate of disability, granted July 21, 1882, is extended six months. Paragraph 5, S. O. 26, A. G. O., January 31, 1883.

**TAYLOR, B. D., CAPTAIN AND ASSISTANT-SURGEON.**—Granted leave of absence for one month on surgeon's certificate of disability. Paragraph 2, S. O. 13, Department of Texas, February 1, 1883.

**TAYLOR, MARCUS E., CAPTAIN AND ASSISTANT-SURGEON.**—So much of S. O. 20, A. G. O., January 24, 1883, as directs him to report in person to the commanding general, Department of the East, is amended to direct him to report in person to the commanding officer, David's Island, New York Harbor, for duty at that station. Paragraph 2, S. O. 33, A. G. O., February 8, 1883.